93-250

No.

Supreme Court, U.S.
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In The

Supreme Court of the United States

October Term, 1993

NATIONAL EDUCATIONAL
SUPPORT SYSTEMS, INC.,
Petitioner,

v.

AUTOSKILL INC.,
Respondent.

On Petition For A Writ of Certiorari
To The United States Court Of Appeals
For The Tenth Circuit

PETITION FOR WRIT OF CERTIORARI

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QUESTIONS PRESENTED

I. Whether the scope of copyright protection for a computerized reading remediation program extends to the protection of the educational theories and to the particular methods and procedures used in the remediation program, given the limitations of 17 U.S.C. § 102(b)?

II. Whether the requisite "access" and "copying" is established by showing that the second program performs the same functions and uses some of the same teaching methods, if there was no access to the source code, no access to proprietary documentation, no similarity in actual program flow, and no similarity in screens or appearance other than in standard methods of presentation of testing material?

III. Whether the proper test for copyright infringement of a functional work, like a computerized reading program, is to base the finding of similarity on similarity of functions performed and general organization, without first discarding, as unprotected, all similarities in form and function that exist, through the application of the doctrines of merger, scenes a faire, and lack of originality?

IV. Whether the teachings of *Feist Publications, Inc. v. Rural Tel. Serv. Co, Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, and *Diamond v. Diehr*, and 35 U.S.C. § 101, preclude protection by copyright of methods and functions used to implement an educational "method" or "theory" in the form of a computer program?

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v.

AUTOSKILL INC.,

Respondent.

PETITION FOR WRIT OF CERTIORARI To The United States Court Of Appeals For The Tenth Circuit

Petitioner National Educational Support Systems, Inc.[1] (herein "NESS") respectfully prays that a Writ of Certiorari issue to review the judgment and opinion of the United States Court of Appeals for the Tenth Circuit entered in this proceeding on May 19, 1993. In its decision, the Court of Appeals affirmed the grant of a broad Preliminary Injunction by the District Court, and held that NESS had infringed the copyright of a computerized reading program marketed by Autoskill, Inc. (herein "Autoskill") because the

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[1] There are no parent companies or subsidiaries of Petitioner. Respondent subsequently added certain named individual defendants, none of whom were parties to the appeal to the Tenth Circuit; however, as a result of Petitioner NESS filing a Chapter 11 Bankruptcy petition on April 27, 1992, the automatic stay provisions of 11 U.S.C. §362 apply. No further District Court proceedings have taken place since then. This information is provided in compliance with Supreme Court Rules 14.1(b) and 29.1.

later NESS reading program employed similar diagnostic functions and tested for similar types of reading problems, including use of an oral reading test; an auditory visual matching test; a visual matching test; a visual scanning test; use of alternating words and nonsense words; testing for reading speed and accuracy, relying on similar data and criteria; and also presenting the necessary reading skills in a hierarchical manner. NESS had no access whatsoever to the Autoskill source code, at any time. The opinion also held that the Tenth Circuit had jurisdiction of the appeal, and denied Autoskill's motion to dismiss. Petitioner seeks review only of the copyright infringement holding, since it agrees entirely with the holding of the Tenth Circuit's jurisdiction over NESS' appeal.

OPINIONS BELOW

The opinion of the Court of Appeals for the Tenth Circuit is reported at 994 F.2d 1476, and is reprinted in the Appendix hereto, p.1a, *infra.*

The Order and Findings and Conclusions of the U.S. District Court for New Mexico (Mechem, S.J.) is reported at 793 F.Supp. 1557, and is reprinted in the Appendix hereto, p.48a, *infra.*

JURISDICTION

Both of the consolidated cases in the trial court were filed in the U.S. District Court for New Mexico pursuant to 17 U.S.C. §502 and 28 U.S.C. §1498. The trial court granted a Preliminary Injunction against NESS, as part of an Order, Findings and Conclusions of Law, entered on April 21, 1992. See p.48a, *infra.*

Petitioner NESS brought a timely appeal to the Tenth Circuit, as a matter of right, under 28 U.S.C. §1292(a)(1). The decision of the Tenth Circuit, affirming the trial court action and denying a motion to dismiss the appeal was entered on May 19, 1993. See p.1a, *infra.* No rehearing was requested.

The jurisdiction of this Court to review the judgment of the Tenth Circuit is invoked under 28 U.S.C. §1254(1), the Petition having been filed within the required 90 day period.

STATUTES INVOLVED

17 U.S.C. § 102(b). Subject Matter of Copyright: In General

(b) In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

35 U.S.C. § 101. Inventions Patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

STATEMENT OF THE CASE

This case involves the issue of the proper scope of protection for a copyrighted computerized reading program. In Petitioner NESS' view, the lower court and the appellate decisions, both, extend copyright protection to the actual functions performed and to the educational theories relied

upon, as well as finding infringement because, structurally, both programs are organized into three stages – testing, analysis and training. Both opinions fail, in Petitioner's view, to analyze correctly the effect of comparing unprotectible elements of the program in reaching a finding of infringing similarity. The parties are not in disagreement as to any of the relevant facts, only the legal effect of them under the federal intellectual property laws.

The two computerized reading programs involved in this copyright infringement dispute are both based on the theories and discoveries of the original educational research of Dr. D. G. Doehring of McGill University. After years of study, funded with Canadian research grants, Doehring succeeded in identifying the testing, diagnosing and training necessary to assist people with reading problems. In 1977 he published a paper that describes in detail the use of a computer program, using his theories, to perform such steps. Both the NESS and the Autoskill reading programs rely on these essential steps, but differ in a number of aspects from each other and from the original Doehring program. The NESS program has a number of new and additional features, such as language translation. Between 1978 and the early 1980's, Drs. Ronald Trites and Christina Fiedorowicz collaborated with Doehring in further publicly funded educational research, which resulted in a joint book that sought to refine the earlier Doehring research and to build a neurological model relating to reading skills.

Following this work, Trites and Fiedorowicz spent eight years (1981-88) and $1.5 million dollars of Canadian research grant money developing and testing a computerized reading program, based on the Doehring studies and their subsequent published research, which computer program somehow became the property of Respondent Autoskill, Inc.

This Canadian corporation is owned by Drs. Trites and Fiedorowicz. It commenced marketing an early version of the program in the late 1980's, and a number of different versions of it, on different computer platforms have since been published. One, called the ICON version, was developed to run on a computer made by UNISYS. The copyright history of the various Autoskill versions and their ownership is muddy and questionable, and was argued below, but will be ignored for purposes of this Petition since the underlying structure and functions of all the programs in question relate back to the Doehring research and his first reading program. The key issue is scope of protection, not ownership, although who the true author is does effect the issue of the required originality.

Petitioner NESS, a New Mexico corporation, was organized by Byron Manning and Ron Neil in late 1989. It initially planned to market the Autoskill ICON program under license from Autoskill, but was unsuccessful in negotiations with Trites. Neil had first become familiar with the features and purposes of the ICON program while working as a computer salesman for UNISYS in the late 1980's. When negotiations with Autoskill bogged down in November 1989, NESS began discussions with a computer consulting firm, Automation Consultants, Inc. (herein "ACI") about programming a reading program for NESS, which was "to perform the same functions . . . that Autoskill did" but with significant improvements, so that it could serve as an Autoskill replacement for NESS to market.

ACI started programming in January 1990 after the principals of NESS had spent several months establishing the specifications for the NESS program by extended discussions with ACI. During the design phase, ACI was provided with copies of public domain research and published articles by

Doehring, Trites and others, and with a publicly available sales brochure that described the Autoskill ICON program. These materials were intended as background, and contained neither Autoskill source code nor any description of the internals of the Autoskill program.

At no time did either NESS or ACI have access to the source code of the Autoskill reading programs, and all ACI's knowledge of it came from discussions with Manning and Neil and from the materials delivered to ACI. Only in April, after delivering a test version of the NESS program in late March 1990, did ACI first see the ICON program in operation on a computer, when one specific screen display was shown ACI, as a means of explaining the implementation of one of the educational theories relied upon in the two programs. The final marketable version of the NESS program was delivered to NESS on September 24, 1990.

In July 1990 NESS signed a Canadian distributor, Lifeskills Technology, to sell the program when it was ready for market. However, in September 1990 NESS and others began to hear rumors that Autoskill was contemplating filing suit against NESS for copyright infringement. NESS then sent Lifeskills an eighteen page letter outlining all the steps it had taken to avoid infringement. This included obtaining three legal opinions that its proposed methodology of developing the program from specifications and public domain educational materials was sound and legal under the copyright laws. Lifeskills was concerned enough that it never sold any NESS programs under its agreement. In April 1991 Lifeskills finally received a letter from Autoskill's attorney threatening an infringement action in Canada and stating, falsely, that a similar action had already been filed in the U.S.

Acting on advice of local counsel, NESS filed a Declaratory Judgment action in District Court in New Mexico, on July 24, 1991, seeking a TRO, a preliminary injunction and other relief, in the belief that the NESS program was not infringing. The TRO and OSC were issued, and a hearing ensued during which witnesses were called. On September 25, 1991 Autoskill filed its own infringement action in the same court, and the two actions were later consolidated by stipulation in November 1991.

A four day hearing followed, before the Honorable E. L. Mechem, involving numerous lay and expert witnesses and nearly all the evidence likely to come out at a full trial. This resulted in entry of a Preliminary Injunction against NESS. The District Court found a likelihood of success on the part of Autoskill's claim of infringement and granted the Preliminary Injunction for the same reasons relied on by the Tenth Circuit opinion – similarity in functions used, use of a hierarchical approach of moving from the simplest reading skills to more difficult ones, and "the manner" or methods used to test and remediate the student's reading problems. Additional findings and conclusions are discussed below in the Argument section. Fundamentally, the Court found infringement because, as a key Respondent's witness testified, the two programs "did the same thing."

The lower court Order was entered on April 22, 1992, and an appeal to the Tenth Circuit followed, on a number of grounds including some no longer relevant here. The Tenth Circuit decision of the Honorable William J. Holloway, Jr., Senior Circuit Judge, was entered on May 19, 1993. NESS' Petition to this Court followed in a timely manner.

REASONS FOR GRANTING THE WRIT

I. THE ISSUE OF THE PROPER SCOPE OF PROTECTION FOR COMPUTER SOFTWARE AND THE PROPER LIMITATIONS ON COPYRIGHT PROTECTION OF FUNCTION AND METHODS IS A CRITICAL UNANSWERED QUESTION FOR THE WHOLE COMPUTER INDUSTRY.

The computer industry, at $360 billion dollars a year sales volume, is the world's third largest. Fifty-five computer companies, all but 13 of them American, do over $1 billion dollars a year in sales. There are 135 million personal computers in the world, all of which use applications software.[2] The U.S. Software Publishers Association claims membership of over 1,000 companies. The U.S. application software sales volume in 1992 was $5.75 billion, and is increasing every quarter.[3]

Since the passage of the 1978 Copyright Act, there have been 47 reported federal appellate cases involving computers and software and copyright, and more than 180 district court cases in the same category.[4] *There are no reported decisions of the U.S. Supreme Court involving software and copyright, and only one major case involving patents and software.*[5] There are also a number of such cases in the lower courts, winding their way up the ladder of appeals, that would benefit from the guidance of this Court on this issue.

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[2] "The Computer Revolution," Fortune, June 14, 1993, pp. 56-60.

[3] Telephone call with SPA staff member, July 15, 1993, regarding available statistics on software.

[4] LEXIS search, conducted July 1993, using these key words.

[5] *Diamond v. Diehr*, 450 U.S. 175 (1981), relating to the ability of an inventor to patent processes and methods implemented by use of a computer and software.

Many of these cases would never have been brought if more definitive rules on the scope of protection existed.[6] The courts and the businesses involved in this litigation would have saved countless hours of lost time and millions of dollars in legal fees and costs.[7] This is an issue whose time has come.

In this context, Petitioner's case is the perfect vehicle for this Court to address the issue of the scope of copyright protection for computer programs under 17 U.S.C. §102(b), since it has detailed facts which were developed and discussed at great length in the record and on appeal; it does not involve any access to the "source code," which is the actual work of authorship; it has no trade secret issues;[8] it has no patent infringement claims; and it has no breach of contract or licensing issues as many other pending cases do.

This case fundamentally involves an effort on the part of Respondent Autoskill to protect educational research and

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[6] See, for example, *Apple Computer, Inc. v. Microsoft Corp.*, CCH Copyright L.R. ¶27,115 (D. N.D. CA, 1993) and numerous earlier rulings in the same case. See also, *Lotus Development Corp. v. Borland Int'l, Inc.*, 799 F.Supp. 203 (D. Mass., 1992) and earlier Lotus cases against other smaller defendants who could not afford to appeal the decisions. The conclusions of these two trial judges on the scope of protection and the proper manner of analyzing non-protectible elements of computer programs are diametrically opposed. Both cases are likely to be appealed to the Circuit Courts, who will need the guidance of this Court.

[7] A pending case relating to the scope of protection of input and output formats for computer programs is, for example, presently on appeal to the Fifth Circuit, which raises this issue again after five years since an earlier district court case. *Engineering Dynamics Inc. v. Structural Software, Inc., 5th Cir., No. 92-3444.*

[8] Respondent had a trade secret misappropriation claim in its complaint, which it did not pursue during the injunctive relief stage of the case, and the judgment of the lower court expressly states that it is not based on any trade secret claims.

theories and its particular implementation of them in the processes, methods, and functions used to make the two programs effective educational tools. In fact, Autoskill's founder's main argument for the preliminary injunction was that the NESS program implemented Autoskill's theories so poorly that it would reflect badly on Autoskill if the NESS program were to continue to be sold. (App. p. 86a). It is hard to imagine a case that more directly presents the issue of the scope of copyright protection. It is also hard to imagine a more dangerous decision from a public policy standpoint.

For Petitioner it is also critical to have this decision reviewed, since it was forced into bankruptcy by the decision of the lower court, from which it will never recover unless the case is reversed. The Tenth Circuit opinion appears to have assumed, wrongly, that this was merely a case disputing the sufficiency of the evidence on which to base the preliminary injunction and that the critical scope of public policy and scope of copyright issues which Petitioner tried to raise on appeal would all be resolved at the trial of the case. (App. at pp.27a, 31a, 33a). They will not, since NESS is bankrupt and could only bring this petition because Petitioner's legal counsel agreed to do so on essentially a *pro bono* basis, due to the importance of the issues involved to the entire computer industry. Were it not for the recent decision of this Court that corporations cannot file *forma pauperis* petitions, this would have been filed as such, as the petitioning corporation is insolvent unless it can have the injunction lifted and meet its obligations to customers by sales of its program.

The typical software piracy case involves so-called "literal similarity," where the source or object code itself is copied; while the trial judge here, as in many other recent

software cases, was struggling with alleged infringement based on the "non-literal similarity" of the two programs. See *Nimmer*, § 13.03 [F], *et seq.* In such software copyright cases, not involving direct copying, the infringement must be proven by circumstantial evidence through showing access and establishing substantial similarity between the two programs. *Sid & Marty Krofft Television Productions, Inc. v. McDonald's Corp.*, 562 F.2d 1157, 1172 (9th Cir. 1977).

Since *Whelan Assoc., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222 (3rd Cir. 1986) the courts and legal writers have grappled with Whelan's troublesome concept of finding infringement solely through similarity in "structure, sequence, and organization" ("SS&O") of the programs, as a substitute for actual evidence of copying. The difficulty, recognized by numerous writers and the trial judge, here, is that all computer programs will have certain inherent similarities in SS&O, if they are intended do the same thing because programmers and computer programs tend to do similar things, nearly the same way. Similarity in structure does not, necessarily, establish that the second program is a copy of the first. Note, however, that in *Whelan*, as in *Altai*, unlike this case, there was evidence of actual access to the source code by those defendants.

Contrary to assertions to that effect in the Tenth Circuit and lower court opinions, Petitioner does not contend that because a computer program is functional that it is unprotected as an educational method. (App. p.32a) Rather, it is Petitioner's contention that the trial judge, and the appellate judge, both, failed to remove from consideration, all similarities that were based on similarities in function, process, method or systems, even if embodied in the program. As this Court held in *Feist*, "the mere fact that a work is copyrighted does not mean that every element of the

work may be protected." __ U.S. __, 111 S.Ct. 1282, 1289. Petitioner submits that neither court followed the teachings of *Feist* correctly.

The scope of copyright protection is limited to the protectible elements of expression, which elements do not include processes, methods, systems, or procedures used in the program or when carried out by the program. This requirement, found in 17 U.S.C. § 102(b), is a codification of this Court's well known case, *Baker v. Selden*, 101 U.S. 99 (1879), which involved a copyrighted book that described a bookkeeping system and forms to use the system. This Court held that when an author described a system in a copyrighted book, he could not thereafter preclude others from using the described system, even though the book text, itself, was protected from copying.

The difficulty the computer industry and the courts are having with understanding the transition from a book describing an accounting system, to computer programs that themselves do the accounting (or testing and training), is that the book does not do the actual process, while the program does. Therefore, the computer program must be given very narrow protection for non-literal aspects of similarity, lest excessively broad protection preclude others from using a similar system in a computer program.

Congress clearly anticipated some of these issues, when it stated in its Report accompanying 17 U.S.C. §102(b) of the 1976 Copyright Act:

> Some concern has been expressed lest copyright in computer programs should extend protection to the methodology or processes adopted by the programmer, rather than merely to the "writing" expressing his ideas. Section 102(b) is intended, among other things, to make clear that the expression

> adopted by the programmer is the copyrightable element in the computer program and that the actual processes or methods embodied in the program are not within the scope of the copyright law.

H.R. Rep. No. 1474, 94th Cong., 2d Sess.. 57 (1976). The decision below purports to protect exactly such unprotectible aspects of the Autoskill program.

> More recently the Ninth Circuit has also explained: The copyright holder has a property interest in preventing others from reaping the fruits of his labor, not in preventing the authors and thinkers of the future from making use of, or building upon, his advances. The process of creation is often an incremental one, and advances building on past developments are far more common than radical new concepts. See *Lewis Galoob Toys, Inc. v. Nintendo, Inc.*, No. 91-16205, slip op. 5843 (9th Cir. May 21, 1992).

New Kids on the Block v. News America Publishing, 1992 U.S.App. LEXIS 16678, 23 USPQ 2d 1534 (9th Cir. 1992).

The problem with the Tenth Circuit and the trial court protection of systems and methods is perfectly illustrated at App. p.38a where the Court describes the allegedly protectible aspect of the Autoskill program as "*the manner in which it used the computer to record mastery and speed of response.*" The opinion goes on, "*The automaticity theory that Autoskill utilizes* was not found in the other software programs. . . . *Autoskill's presentation of graphs and its immediate feedback* [features were] not found in other software programs." And further, "*the Autoskill [program] assessed the abilities of students and divided them into three distinct subtypes, and then prescribed training* according to those subtypes." [Emphasis added]. These characteristics of the computer program are not the protected expression of a computer

program, they are what the program does, as well as being the actual implementation of an educational theory in a program. They are the identical processes that a human teacher might use if he or she had no computer, but wished to use Autoskill's automaticity theory. Surely no one would contend that Autoskill could prevent another teacher from manually doing these things under pain of copyright infringement. How then could this be evidence of protectible similarity that leads to copyright infringement in a computer program?

Speaking of yet another attempt to protect teaching methods, another trial judge has said there is "no monopoly on any pedagogical technique," and no "exclusive right to present any of its material" in a particular outline or text format. Since there are only a few ways of teaching, there is "no monopoly on its process or approach, and only limited protection may exist for teaching materials." *Kepner-Tregoe, Inc. v. Carabio*, 1978-81 CCH Copy. L.R. ¶25,108, pp. 15,637 and 15,639 (E.D. Mich. 1979). In light of the inherently functional nature of a teaching program, Petitioner believes the protection here should be all the more limited.

The error of both the trial court and the Tenth Circuit is further illustrated over a series of pages (App. pp.71-79a) in the trial court discussion of the protectible elements of similarity, which are described as "the important pedagogical aspects of the reading program." The educational theory behind a program is no more protectible than the theory of accounting described in *Baker v. Selden.*

Furthermore, the conclusion, at App. pp.71-72a, that there is protectible similarity in the fact that Autoskill and NESS both present material by starting with the simplest and moving to the most complex strains the boundaries of copyright beyond the law. In the first place, there are only

two logical ways to proceed, either bottom-up or top-down, and both directions are mere methods of presentation of information, and are not protected expression. What does the third programmer do when the first two methods are used by others? Is he precluded from using either one? This is precisely why the case law and § 102(b) preclude protection for the way things are done, and particularly in a computer program which actually carries out the process for the user.

If additional examples of protection of methodology are needed, consider the conclusion, at App. p.72a, of the trial court opinion, approved by the Tenth Circuit, that providing the user with three choices in a multiple choice test is protected expression, since the expert witness pointed out that one could just as easily provide two, three, four or five choices. Surely, the mere fact that there is more than one method to perform a specific function or process does not entitle the first copyright author to appropriate her particular method to the exclusion of all others under the guise of copyright law.

These elements of the decisions below are most troubling and seem to represent a view, prevalent in other recent copyright cases, to find some basis for protection on the theory that it is unfair for others to use the ideas disclosed in a program to develop a competitive product. It seems to be a sort of common law misappropriation theory hiding in the copyright laws. We believe this is not, and should not be the law.

II. FINDING LIKELIHOOD OF INFRINGEMENT ON THE BASIS OF "ACCESS" AND SUBSTANTIAL SIMILARITY IN SOFTWARE CASES WHERE THERE WAS NO ACCESS TO THE ACTUAL

PROGRAM SOURCE CODE IS TROUBLESOME.

The traditional principle that copyright infringement can be shown by "access" and substantial similarity, where direct copying cannot be proven, is unreliable in any software case where there is positive evidence, as here, that the alleged infringer had no access to the source code, no access to proprietary documents describing the internals of the program, and where the uncontradicted expert programming evidence is that the programming language and process flow of the second program is completely different from the first. The proper issue then becomes "access to what?"

In *Computer Assoc. Int'l, Inc. v. Altai,* 982 F.2d 693 (2nd Cir. 1992), the Second Circuit first discussed the problem of the major differences between computer programs and more traditional copyrighted works, together with the problems of proof this creates. *Altai* enunciated a new three step filtration test for evaluating the similarities and deciding if they are protectible elements, before arriving at a conclusion of protectible, substantial similarity. While Petitioner fully agrees with the *Altai* approach, as is discussed in Part III below, there are several major differences in that case from that of Autoskill/NESS that we believe are controlling. We believe this fact should be of concern to the Court, since there are many other cases in the lower courts that have these same differences, and guidance is needed from the Court.

In this case, unlike *Altai* and *Whelan,* the evidence is that neither the source nor the object code of the Autoskill program was copied, and there is affirmative evidence from the only expert programmer witness that the underlying program had little or no similarity, except as to the functions

it permits the user to execute. The programs were written in different computer languages for different computer systems. There is little similarity in how they present themselves to the user, beyond the fact that both present graphs (one a bar graph, the other a line graph) and both present text in blocks and expect answers to be keyed in by pressing the 1, 2 or 3 keys. These facts are significant because of the way computers work and the way programs are written.

The Tenth Circuit and the trial court found the necessary "access" from the fact that Manning and Neil had both seen and used the object code version of the Autoskill ICON program over a period of time, and that they had seen sales literature and user documentation. The Tenth Circuit called this "the opportunity to view" and "the opportunity to copy." (App. p.24a). The flaw in this theory of access is that what the end user sees when a program runs is what the experts in both *Altai* and *NESS* called "the program behavior." The user does not have access to the program itself, but only sees what it puts up on the screen and how it responds to what the user does. The Tenth Circuit merely glossed over Petitioner's argument about lack of access, and essentially ignored it.

Access, in the copyright sense, differs drastically in the case of computer programs, as contrasted with books, films, or sound recordings. It is a significant difference that needs to be considered by this Court, since the *Apple/Microsoft* and *Lotus/Borland* cases referred to in Fn.6, supra, also involved no access to the source code by Microsoft or Borland. In *Whelan* and *Altai*, supra, there was clear evidence of access and an opportunity to study the actual workings of the source code. There is no such evidence in this case.

When a book purchaser acquires a book, the entire

plot of characters and theme is readily available to anyone who reads the book; similarly, the viewer of a movie or a videotape has the entire contribution of the author, the musicians and the cameraman laid bare to see and to copy; and, in the case of music, the listener can (if an experienced musician) tell what the notes and timing of the musical composition are, and can readily duplicate the sounds.

Contrary to the assumption made in the Ninth Circuit decision of *Sega Enterprises, Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992), it is not possible to tell from running and using a computer program much more than what features and characteristics it has, and what the content of the screen messages it puts out say. As any programmer can testify, it is not only possible, but highly likely, that any two programs that appear to do the same thing, have little or no similarity in the actual source code written by the computer programmer authors. In short, you can see what the screen says and deduce what it is doing with the information you type in, but short of reading the source code or "reverse engineering" the object code, as occurred in *Sega* and *Nintendo, supra,* there is absolutely no way to know what the original work actually says or looks like internally. This is why Accolade and Atari went to the trouble and expense of reverse engineering the computer programs stored in the video games owned by the plaintiffs. It is rather like saying that if two boxes have the same label on them, that the contents in each are, in fact, the same. Obviously, this assumption cannot be verified without opening the boxes and examining the contents of each. When this was done with the NESS program, it bore no resemblance to that of the Autoskill program, according to the one computer expert who testified. (App. pp.42, 56). The trial judge, however, accepted the testimony of the educational expert, Dr. Olson,

who acknowledged that he was not a programmer, but who testified that the programs were substantially similar in "pedagogical content." (App. p.43a). Both the Tenth Circuit and the trial court concluded that the educational content, as disclosed by using the program, was the similarity to measure. Petitioner suggests that the similarity has to be in the program, and not what the program does or what theories it uses. To rule otherwise is to conclude that copyright protects *the result* of operating a computer program. We know of no precedent for such a conclusion.

Thus, the legal question for this Court to determine is whether access to the actual program is necessary to find similarity, or whether access to what the program does is all that is needed to have a reliable basis for finding likelihood of infringement. Petitioner believes the answer is obvious, and, by way of example, suggests that the evidence of similarity in operation relied upon by the lower court is misleading, unreliable, and reversible error on its face.

For example, one of the examples of infringing substantial similarity found by both courts below was *the existence* of an "reading aloud" module in NESS's program and an "oral training" module in the Autoskill program. Both modules consist of presenting a word on the screen of the computer and expecting the child to speak the word to a teacher sitting with the child, and measuring the response time. NESS pointed out that this was merely a variant of use of cardboard "flash cards" held up for the child by teachers of old. The Tenth Circuit found this evidence of substantial similarity in the two programs, concluding that NESS had produced no evidence that the Autoskill feature "contained no original expression." (App. p.40a).

Petitioner fails to understand how the mere existence and use of the same feature (which is both an idea and a

functional process built into the two programs) tells the court anything about what the programmer actually wrote in the source code of either program, and whether it is substantially similar. This is not a question of non-literal similarity of a movie plot, or a paraphrase of a passage in a book, it is a holding that similarity is to be measured by what functions the program performs.

Yes, Petitioner elected to include a similar test to that of Autoskill, but there is no evidence of how either program made this function work, so that unless merely doing the same thing that another program does is evidence of infringing substantial similarity, this similarity is meaningless for copyright law purposes. It does suggest that if the first user of a particular method of testing in a computerized program claims copyright ownership of that method, then all future programmers will have to find different ways to test or risk infringement.

Petitioner believes that this same error, which this Court needs to rule upon for public policy reasons, is inherent in the findings of both courts below that listing three word choices on the screen, and requiring the user to hit either a 1, a 2 or a 3 key is a protectible similarity. (App. pp.41-42a) Upon reading either opinion, this Court will note that virtually every substantially similar element selected by the lower court has the same failing. It tells one only that the programs are functionally similar. We understood from the CONTU Report[9] and existing case law that:

[P]rogrammers are free to read copyrighted programs

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[9] "Final Report of the National Commission on New Technological Uses of Copyrighted Works", p. 21 (Washington, D.C., 1979). The Commission is commonly called CONTU for short.

> and use the ideas embodied in them in preparing their own works. This practice, of course, is impossible under a patent system, where the process itself is protected, and difficult under trade secrecy, where the text of a program is designed not to be revealed.

Petitioner urges this Court to take this case in order to examine this issue, or at least remand it to the Court of Appeals and the District Court for failure to correctly consider the issue and reliability of "access" as circumstantial evidence of copying.

III. THE TENTH CIRCUIT DECISION IS IN DIRECT CONFLICT WITH THE SECOND, FIFTH, NINTH AND FEDERAL CIRCUITS, AND IS ALIGNED ONLY IN PART WITH THE THIRD CIRCUIT, ON THE ISSUE OF THE PROPER METHOD OF TESTING FOR SIMILARITY IN COMPUTER PROGRAMS.

The Second Circuit, in *Computer Assoc. Int'l, Inc. v. Altai, Inc., supra,* has established a now well accepted modification of Judge Learned Hand's earlier "levels of abstractions" test[10] for determining non-literal infringement

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[10] "Upon any work, and especially upon a play, a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. The last may perhaps be no more than the most general statement of what the play is about, and at times might consist only of its title; but there is a point in this series of abstractions where they are no longer protected, since otherwise the playwright could prevent the use of his 'ideas,' to which, apart from their expression, his property never extended." *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2nd Cir. 1930), *cert. denied, 282 U.S. 902 (1931).*

in the case of computer software. The *Altai* court specifically rejected the more "generalized and metaphysical distinctions" of similarity in "structure, sequence and organization" of the Third Circuit's *Whelan* decision, *supra,* rendered in 1986.

The trial judge in *Autoskill* stated that he, too, rejected the *Whelan* test of SS&O, and would use the *Nichols* test, but in his actual Findings and Conclusions he ultimately concluded that the "structure, sequence and organization" in a computer program was a form of protected expression. (App. p.69). In fairness to the trial judge, only the District Court decision in *Altai* was available at the time of his ruling. However, after the Second Circuit decision was readily available, the Tenth Circuit still approved of this hybrid and inconsistent disclaimer of *Whelan,* and acknowledged that "the trial judge's analysis and conclusions here do not reveal precisely the abstractions analysis outlined in *Altai.*" The Tenth Circuit states that since it is merely a preliminary injunction, the trial judge should not be reversed "because of a lack of any particular detail in his analysis," and suggests waiting until after a full trial to select the proper test. (App. pp.26-27, 30-32).

Petitioner respectfully disagrees with the Tenth Circuit's view of this error. While sympathetic with the trial judge's dilemma of having to write detailed opinions at a preliminary stage in the proceedings, Petitioner feels that this is the point to be even more careful, since the issuance of an injunction in intellectual property cases more often than not ends the proceedings because of the bankruptcy or inability of the defendant to do business. Bear in mind that NESS is a defendant that obtained three clean legal opinions about the legality of its programming efforts, at least one before even starting the project. NESS was not an intentional

infringer.

Petitioner believes that this Court should give its blessing to the *Altai* three step test, as have the Ninth and Federal Circuits.[11] The *Altai* test breaks no new ground, but relies on the traditional copyright doctrines of merger, scenes a faire, and public domain elements of a work as being unprotectible. It explains that:

> [A] court would first break down the allegedly infringed program into its constituent structural parts. Then, by examining each of these parts for such things as incorporated ideas, expression that is necessarily incidental to those ideas, and elements that are taken from the public domain, a court would then be able to sift out all non-protectible materials. Left with a kernel, or possibly kernels, of creative expression after following this process of elimination, the court's last step would be to compare this material with the structure of the allegedly infringing program. The result of this comparison will determine whether the protectible elements of programs at issue are substantially similar so as to warrant a finding of infringement.[12]

The Second Circuit then steps through the three part process of Abstraction, Filtration, and Comparison in considerable detail, which discussion Petitioner NESS respectfully commends to this Court. The Second Circuit, and its trial court below, are particularly mindful of the special problems created by the functional nature of computer programs. The

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[11] See, *Sega, supra,* and *Nintendo, supra,* both of which concluded that *Whelan* was unworkable and unfair, and embraced *Altai.*

[12] *Altai,* 982 F.2d 693, at ____.

Fifth Circuit in *Plains Cotton Coop. Assoc. v. Goodpasture Computer Service, Inc.*, 807 F.2d 1256 (1987), *cert. denied*, 108 S.Ct. 80 (1987), applied essentially the same tests as *Altai*, prior to the Second Circuit decision. The Tenth Circuit stands alone in its refusal to adopt *Altai* for the purpose of excluding all non-protectible elements before looking at over all similarity.

The concern which the computer industry has with this approach is that it fails to take into consideration the issues so well discussed in *Altai*, at both the appellate and trial court level, concerning the inherent functionality of all computer programs and the fact that this will inevitably lead to a finding of similarity unless the court examines why the similarities exist. Here the example of finding that providing immediate feedback, as a function of the training, was protectible similarity, demonstrates that common sense would seem to tell one that this is one of the functions of a computer that should be usable by anyone, and cannot belong to Autoskill, since it is an idea, a theory, and a process implemented in a program. This is a perfect example of merger of idea and expression.

The errors of the Tenth Circuit and the court below fail to consider the devastating effect of granting a preliminary injunction, based on superficial similarities. Both courts seem to fail to recognize the hybrid nature of the test applied, which rejected some elements claimed by Autoskill, but left items clearly unprotectible under the law.

As an example, the Tenth Circuit opinion points out that the trial court rejected a claim for protection of Autoskill's theory that there are three subtypes of students with reading difficulties, on the grounds that this would thwart the efforts of others to use these concepts. (App. p.29a). In the next breath, the court approves of the trial

court holding that "the *idea* of the Autoskill program for testing, diagnosing, and training the three subtypes need not be denied copyright protection under the merger doctrine." (App. p.34a). *Query*: What ever happened to 17 U.S.C. § 102(b) in the Tenth Circuit?

Finally, because of this inconsistency, if taken one by one, virtually every element chosen by the trial judge as protectible similarity can be shown to be improper, as either a merger of idea/expression, scenes a faire, or not original in any sense of the word. Given this, the conflict in the views of the Tenth Circuit and the other circuits is vivid.

IV. THE PROTECTION OF FUNCTIONS, PROCESSES AND TEACHING METHODS USED IN A COMPUTER PROGRAM BY COPYRIGHT IS INCONSISTENT WITH PRIOR TEACHINGS OF *FEIST, BONITO BOATS* AND THE STATUTORY SCHEME FOR PATENTS AND COPYRIGHTS

This Court has, by a series of carefully crafted decisions over the years, made it clear that the divisions of intellectual property into separate areas of copyright, patents, trade secrets and trademarks is a Constitutional imperative in order to preserve free speech and the unimpeded flow of ideas for the benefit of all society. In discussing in its brief that the order of the trial court had the effect of granting patent protection to Autoskill for its computer program, because all the protected elements described in the Order were functions or ideas and not expression, Petitioner raised this issue with the Tenth Circuit to no avail.

We believe the teachings of this Court on this subject are critical in the days ahead when more and more machines are simply computers with programs installed and running

in them. Some distinction must be carefully made by the courts or there will soon be little purpose for the patent system, as it is so simple to obtain copyright protection, in lieu of a patent – just write the idea down in the form of a computer program that carries out the process or function.

Following this sound public policy, Congress and the courts below have consistently delineated these boundaries so that there is very little overlap, with the result that there are, in fact, elements of legally protected works that are intentionally unprotected. See, for example, *Kewanee Oil Corp. v. Bicron,* 416 U.S. 470 (1974) relating to trade secrets; *Feist, supra,* (1991) relating to copyright; and *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.,* 489 U.S. 141 (1989) relating to patents and unprotected ideas and inventions. For this same reason, Congress has established 35 U.S.C. § 101 as the source of authority for patenting ideas implemented in machines and processes, and has excluded by 17 U.S.C. § 102(b) the protection of similar matter under the copyright laws. The decisions of the courts below failed to consider this key public policy issue.

The language of *Bonito Boats* is particularly apt in the case before this Court, where Autoskill has sought and obtained patent-like copyright protection for the implementation of its refined educational theories and teaching methods in a computer program, that might have been patentable, but as to which it sought no patent. In commenting on the effect of a Florida statute prohibiting direct molding of fiberglass boat hulls, this Court said:

> The Florida statute allows petitioner to reassert a substantial property right in the idea, thereby restricting the spectrum of useful public knowledge. Moreover, it does so without the careful protections of high standards of innovation and limited

> monopoly contained in the federal scheme. We think it clear that such protection conflicts with the federal policy 'that all ideas in general circulation be dedicated to the common good unless they are protected by a valid patent.' *Lear, Inc. v. Adkins*, 395 U.S. at 668.
>
> . . . .
>
> Moreover, as we noted in *Kewanee*, the competitive reality of reverse engineering may act as a spur to the inventor, creating an incentive to develop inventions which meet the rigorous requirements of patentability. [Citations] The Florida statute substantially reduces this competitive incentive, thus eroding the general rule of free competition upon which the attractiveness of the federal patent bargain depends.

489 U.S. at 160-161.

In considering the effect of the injunction issued by the court below, which effectively prohibits NESS from utilizing the most effective methods of teaching reading, determined only after years of research and expenditure of public monies by many researchers, the additional language of *Bonito Boats* on the issue of protection of functionality is instructive:

> It is difficult to conceive of a more effective method of creating substantial property rights in an intellectual creation than to eliminate the most efficient method for its exploitation. *Sears* and *Compco* protect more than the right of the public to contemplate the abstract beauty of an otherwise unprotected intellectual creation -- they assure its efficient reduction to practice and sale in the marketplace.

> Appending the conclusionary label 'unscrupulous' to such competitive behavior merely endorses a policy judgment which the patent laws do not leave the States free to make. *Where an item in general circulation is unprotected by patent, '[r]eproductions of a functional attribute is legitimate competitive activity.' Inwood Laboratories, Inc. v. Ives Laboratories, Inc.*, 456 U.S. 844, 863 (1982). . . . [T]hat which is published may be freely copied as a matter of federal right." [Emphasis added]

More recently the Federal Circuit had occasion to deal with this same issue in a video game software dispute, where it commented:

> [C]opyright protection does not 'extend to any . . . procedure, process, system [or] method of operation.' 17 U.S.C. §102(b). In conformance with the standards of patent law, Title 35 provides protection for the process or method performed by a computer in accordance with a program. See, *Arrhythmia Research Technology v. Corazonix Corp.*, 958 F.2d 1053 (Fed. Cir. 1992). Thus, patent and copyright laws protect distinct aspects of a computer program. See *Baker v. Selden*, 101 U.S. 99, 103 (1879). Title 35 protects the process or method performed by a computer program; Title 17 protects the expression of the process or method. While Title 35 protects any novel, nonobvious, and useful process, Title 17 can protect a multitude of expressions that implement that process. If the patentable process is embodied inextricably in the line-by-line instructions of the computer program, however, then the process merges with the expression and precludes copyright protection. See *Formula Int'l*, 725 F.2d at 525; *Apple*

Computer v. Franklin Computer, 714 F.2d 1240, 1253 (3rd Cir. 1983), *cert. dismissed, 464 U.S. 1033 (1984). Atari Games Corp. v. Nintendo of America, Inc.,* 975 F.2d 832 (Fed. Cir. 1992).

Petitioner believes that a careful examination of the Findings and Conclusions in the trial court decision, accepted by the Tenth Circuit with the comment that they are sufficient for a preliminary injunction purposes, discloses the serious error below which results in the conversion of copyright law into patent law protection. The trial court refers to Respondent's right to protect ideas, theories, and processes throughout the decision. For example, the Conclusions of Law state (App.pp.69-70a):

> *The manner in which Autoskill utilizes those ideas and communicates them to students and teachers in the context of its reading program amounts to expression.* Such expression can extend to the organization, structure and sequence if they are original. [Citing *Feist* and *Whelan*]. [Emphasis added.]

The fallacy of this contention is apparent if one considers that if this principle were a correct statement of the law, the first person who made a motion picture would have been entitled to copyright protection precluding anyone else *from the process of communicating expression in the form of moving pictures.* The "manner" or process used in a program of presenting information and using the program is not within the purview of copyright law, except for the possible situation where the computer is used to produce graphical output, and then all copyright would protect would be the actual graphic images. There is no contention here that the screen output, as such, is copied or even remotely similar. In fact, it is in color and is laid out very differently in the NESS program.

The difficulty with cases like this, pointed out in *Altai, supra,* is that computer programs are inherently process oriented expression, so that the more efficient a method or process of doing something is, the more closely it approximates the idea or process embodied in the program's structure. This is, presumably, why Congress made note of this very problem, and its intentions, in the House Report accompanying the Copyright Act of 1976, quoted above in Part I.

Petitioner respectfully urges this Court to address this problem through this case, and thereby provide guidance to the courts, the industry and the legal professionals that have to deal with these complex issues. The real issue here is whether, what the experts in both the instant case and the *Altai* case called "the behavior of the program," is part of the copyrighted program or its result. The former should be protected, the latter, it is submitted, should not.

CONCLUSION

For the foregoing reasons, Petitioner respectfully requests that this Court grant its Writ of Certiorari or remand the case for dismissal of the Preliminary Injunction in the court below, with costs to Petitioner.

Respectfully submitted,

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APPENDIX A

JUDGMENT OF THE UNITED STATES COURT OF APPEALS FOR THE TENTH CIRCUIT

Entered May 19, 1993

AUTOSKILL INC., a Canadian corporation,
Plaintiff-Appellee,

v.

NATIONAL EDUCATIONAL SUPPORT SYSTEMS, INC., a New Mexico corporation,
Defendant-Appellant,

NATIONAL EDUCATIONAL SUPPORT SYSTEMS, INC., a New Mexico corporation,
Plaintiff-Appellant,

v.

AUTOSKILL INC., a Canadian corporation,
Defendant-Appellee.

No. 92-2118

APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF NEW MEXICO (D.C. No. CIV-91-960M)

G. Gervaise Davis III of Davis & Schroeder, P.C., Monterey, California (Scott David Schroeder and Gary C. Shallcross of Davis & Schroeder, P.C., Monterey, California, and Ross Perkal, Albuquerque, New Mexico, with him on the brief), for National Educational Support Systems, Inc.

Robert W. Harris, Albuquerque, New Mexico, for Autoskill Inc.

Before **BALDOCK** and **HOLLOWAY**, Circuit Judges, and **O'CONNOR***, District Judge.

HOLLOWAY, Circuit Judge.

Autoskill, Inc. (Autoskill), a Canadian corporation, in 1986 obtained a certificate of registration of copyright on a computer program designed to test and train students with reading deficiencies. After National Educational Support Systems, Inc. (NESS), a New Mexico corporation, began marketing similar software in 1990, Autoskill sued for copyright infringement in the District of New Mexico. That court had jurisdiction of the claim of copyright infringement asserted under 28 U.S.C. § 1338(a) and 28 U.S.C. § 1332(a). The district court granted Autoskill a preliminary injunction against NESS covering some portions of Autoskill's program, Autoskill, Inc. v. National Educational Support Systems, Inc., 793 F. Supp. 1557, 1573 (D.N.M. 1992), and NESS appeals. We have appellate jurisdiction granted by 28 U.S.C. § 1292(a)(1). We affirm.

I. THE FACTUAL BACKGROUND

Beginning in the late 1970s, Dr. Christina Fiedorowicz and Dr. Ronald Trites, the president of Autoskill, developed a computer software program for use in teaching reading

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*The Honorable Earl E. O'Connor, United States District Judge for the District of Kansas, sitting by designation.

skills to students with reading disabilities. After reviewing some research of others, they designed their program to identify students with reading difficulties in three categories or subtypes: Type 0, the oral reading subtype; Type A, the intermodal associative deficit subtype; and Type S, the sequential deficit subtype. Autoskill obtained a United States certificate of registration of the copyright on the software Trites and Fiedorowicz developed, effective January 27, 1986, called "Autoskill: Component Reading Subskills Testing and Training Program." 793 F. Supp. at 1559.

NESS was incorporated as a New Mexico corporation in 1989. Two of the principals of NESS, Byron Manning and Ron Neil, were familiar with the Autoskill program. As a salesman for the computer manufacturer UNISYS Corp., Neil sold ICON computers with Autoskill software to educational institutions for about four years between 1986 and 1990. NESS has explained that as "the first alternative for business of the newly organized NESS," manning and Neil decided to attempt to obtain a license to market the Autoskill program. Brief of Appellant at 15. However, several months of negotiations between NESS and Autoskill ended in late 1989, without an agreement.

With the licensing negotiations with Autoskill still ongoing, Neil began discussions with a computer programming firm, Automation Consultants, Inc. (ACI), about developing a reading software program for NESS. The president of ACI, Lynn Beckwith, wrote in his notes about his initial conversations with Neil that the NESS software was "to be like AUTOSKILL" and was to be an "AUTOSKILL REPLACEMENT." 793 F. Supp. at 1559.

In January 1990, ACI began programming the NESS reading software. NESS specified the substantive and

pedantic content of the NESS program to the programming firm. In addition, NESS gave the programmers copies of some of the published articles that had been used as part of the basis of the Autoskill program, as well as an Autoskill sales brochure. Id. By March 1990, the programming firm had produced a preliminary version of the NESS software, called "Nessi: Reading and Language Development Program." Appellant's App. at 391.

With its reading software ready to demonstrate, NESS began a marketing effort in May 1990. Id. at 186. A Canadian-based firm, Lifeskills Technology, signed an agreement with NESS to distribute the NESS program in Canada. Both NESS and Lifeskills began hearing rumors that Autoskill was planning to initiate a copyright infringement action against NESS. In April 1991, an attorney for Autoskill sent a letter to Lifeskills stating that Autoskill viewed the NESS software as an infringing program, and warning that Lifeskills could be named in an infringement action. Id. at 389-90.

NESS filed a suit in the District of New Mexico in July 1991 for a declaratory judgment that it did not infringe the Autoskill copyright, and other relief. Id. at 1, 5-6 (complaint). The district judge issued a temporary restraining order that prohibited Autoskill officers and other employees from interfering with the distribution of the NESS software. On September 25, 1991, Autoskill filed this instant case in the District Court against NESS for copyright infringement and misappropriation of trade secrets, seeking a preliminary injunction, which is at issue here, to prevent continued infringement. Autoskill's action was consolidated with the NESS suit.

On April 21, 1992, the district judge granted Autoskill a preliminary injunction which prohibited NESS from "[m]anufacturing, reproducing, duplicating, copying, marketing, selling, renting, lending, distributing, displaying or demonstrating any portion of any NESSI Program or user manual which is substantially similar to the protectible elements of the Autoskill Program" and "[d]oing any other act which infringes on the protectible portion of the Autoskill Program." 793 F. Supp. at 1573[1]. The judge concluded that Autoskill had shown a substantial likelihood of success on the merits and had prevailed on the other three elements -- irreparable harm, proof that the threatened injury outweighed the potential harm to NESS from the injunction, and that the injunction would not be adverse to the public interest. Id. at 1572.

II. APPELLATE JURISDICTION

In a motion to dismiss this appeal, Autoskill argued two theories: (1) the automatic bankruptcy stay of 11 U.S.C. §362 prevented NESS from appealing the preliminary injunction; and (2) NESS' notice of appeal was untimely because it was filed more than 30 days after the order granting the injunction. We reserved judgment on the jurisdictional question for disposition by the hearing panel.

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[1] As part of its separate cause of action for misappropriation of trade secrets, Autoskill sought a preliminary injunction restraining NESS from using "trade secrets of Autoskill, including injunctive relief against any further manufacture, distribution or sale of the Nessi Program." Appellant's App. at 22. The judge granted the preliminary injunction solely on the basis of copyright infringement. As Autoskill did not file a cross-appeal on the judge's failure to address the misappropriation of trade secrets claim, that claim is not an issue on this appeal.

On April 27, 1992, six days after the district judge entered the preliminary injunction, NESS filed a voluntary petition in the Bankruptcy Court for the District of New Mexico in which it sought relief under Chapter 11. Commencement of the voluntary Chapter 11 case constituted an order for relief under the chapter. See 11 U.S.C. § 301. Subsequently, on June 3, 1992, memorializing an oral ruling on June 2, the bankruptcy judge granted Autoskill relief from the automatic stay so that Autoskill might enforce the preliminary injunction. None of the bankruptcy judge's orders are before us for review.

NESS initiated this appeal of the preliminary injunction by filing a notice of appeal on June 26, 1992, the sixtieth day after it filed the Chapter 11 petition and the sixty-sixth day after the injunction issued. On July 7, 1992, Autoskill filed the motion to dismiss the appeal for lack of jurisdiction. NESS then sought a ruling in the bankruptcy court on the applicability of the automatic stay to the appeal, or in the alternative a ruling granting it relief from the automatic stay in order to pursue the appeal. See Appellant's App. at 162. On July 16, 1992, the bankruptcy judge ruled that the appeal was permissible on two grounds. First, he held that Rule 6009 of the Bankruptcy Rules controlled; thus, NESS had not needed court approval to prosecute the appeal. Id. Second, the judge granted NESS relief from the automatic stay to prosecute an appeal of the preliminary injunction. Id.

A. 11 U.S.C. § 108(b)(2)

We address first the timeliness of NESS' notice of appeal filed outside the 30 days allowed by Rule 4(a) of the Federal Rules of Appellate Procedure.

In arguing that its notice of appeal was timely, NESS relies on the 60-day time period that 11 U.S.C. § 108(b)(2) provides for certain actions by Chapter 11 trustees or debtors in possession[2]. We must decide whether, when the Rule 4(a) 30-day period for filing a notice of appeal has not expired before the filing of a bankruptcy petition, § 108(b)(2) extends the time for filing a notice of appeal for 60 days after the order for relief is entered. Few courts have addressed the question and the issue is one of first impression in our circuit.[3]

Rule 4(a)(1) of the Federal Rules of Appellate Procedure requires a party appealing as of right in a civil case to file a notice of appeal "within 30 days after the date of entry of the judgment or order appealed from." Since the notice of appeal here was filed outside the 30-day time period, NESS relies on § 108(b)(2) of the Bankruptcy Code. In general terms, § 108(b) embodies a longstanding provision in the

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[2] We note that the bankruptcy judge also concluded that "Title 11 [U.S.C.], § 108(b) and/or (c) is applicable to the acts of the Debtor in prosecuting Debtor's appeal in such case." Appellant's App. at 162.

[3] Two state court decisions address the effect of § 108(b)(2) on state periods for filing notices of appeal. Both courts interpreted § 108(b)(2) as extending to 60 days the unexpired period for filing notices of appeal. Production Credit Ass'n v. Burk, 427 N.W.2d 108, 110-11 (N.D. 1988) (applying § 108(b)(2) to extend unexpired 60-day period for filing notice of civil appeal under state rule to 60 days after order for relief, though ruling appeal untimely); Di Maggio v. Blache, 466 So. 2d 489, 490-91 (La. Ct. App. 1985) (explaining § 108(b)(2) extended unexpired 15-day period for filing notice of appeal to 60 days, though holding debtor's appeal was untimely).

bankruptcy statutes that "permit the trustee, when he steps into the shoes of the debtor, an extension of time for filing an action or doing some other act that is required to preserve the debtor's rights." H.R. Rep. No. 595, 95th Cong., 1st Sess. 318 (1977), re-printed in 1978 U.S.C.C.A.N. 5963, 6275; see also S. Rep. No. 989, 95th Cong., 2d Sess. 30 (1978), reprinted in 1978 U.S.C.C.A.N. 5787, 5816 (same). Section 108(b) provides:

> Except as provided in subsection (a) of this section, if applicable nonbankruptcy law, an order entered in a nonbankruptcy proceeding, or an agreement fixes a period within which the debtor or an individual protected under section 1201 or 1301 of this title may file any pleading, demand, notice, or proof of claim or loss, cure a default, or perform any other similar act, and such period has not expired before the date of the filing of the petition, the trustee may only file, cure, or perform, as the case may be, before the later of--
>
> (1) the end of such period, including any suspension of such period occurring on or after the commencement of the case; or
>
> (2) 60 days after the order for relief.

11 U.S.C. § 108(b). For certain types of actions, then, the statute "allows the trustee 'the later of' two periods, one being the end of the period prescribed by applicable nonbankruptcy law, and the other a specific extension granted by this section." 2 Collier on Bankruptcy ¶ 108.02, at 108-5 (15th ed. 1992).

One requirement of § 108(b) -- that the relevant time period "has not expired before the date of the filing of the

petition" -- is not at issue. Since NESS filed the Chapter 11 petition just six days after the district judge entered the preliminary injunction, the 30-day period for filing a notice of appeal had just begun to run. We consider instead whether a notice of appeal is within the scope of the actions that Congress intended to include within the § 108(b) extended period for actions by a trustee or debtor in possession.

Applying the basic canon of statutory construction, "[i]n determining the scope of a statute, we look first to its language." Moskal v. United States, ___ U.S. ___, 111 S. Ct. 461, 465 (1990); O'Connor v. United States Dep't of Energy, 942 F.2d 771, 773 (10th Cir. 1991). The critical provision of § 108(b) extends any "period" established by "applicable nonbankruptcy law, an order entered in a nonbankruptcy proceeding, or an agreement." The first listed source for the time period, "applicable nonbankruptcy law," is relevant to NESS' appeal. Within the ordinary meaning of the language in the statute, the 30-day time period of Rule 4(a)(1) for filing a notice of appeal is a "period" established under "applicable nonbankruptcy law."

Section 108(b) applies generally to fixed periods within which a debtor[4] or trustee "may file any pleading, demand, notice, or proof of claim or loss, cure a default, or perform any other similar act." We agree with the courts holding

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[4] Though the statute mentions only a trustee, the section also applies to a debtor in possession. E.g., Martinson v. First Nat'l Bank (In re Martinson), 731 F.2d 543, 544 n.2 (8th Cir. 1984); Econo-Therm Energy Sys. Corp. v. Prudential Ins. Co. of Am. (In re Econo-Therm Energy Sys.), 80 B.R. 137, 139 n.6 (Bankr. D. Minn. 1987); see also 11 U.S.C. § 1107(a) (extending rights of trustee to debtor in possession, with some exceptions).

that § 108(b)'s sweeping language "includes the filing of a notice of appeal." Production Credit Ass'n v. Burk, 427 N.W.2d 108, 110 (N.D. 1988); Di Maggio v. Blache, 466 So. 2d 489, 490-91 (La. Ct. App. 1985). Although § 108(b) does not specifically refer to notices of appeal, the statute includes a broad catchall extending the time in which a debtor or trustee may "perform any other similar act" in addition to the steps listed. § 108(b) (emphasis added); see In re G-N Partners, 48 B.R. 462, 467 (Bankr. D. Minn. 1985) (that § 108(b) is "broader" than listed items "is obvious from its reading"). Filing a notice of appeal is at least a "similar act" with respect to two of the actions specified, filing a "pleading" or a "notice."[5] Consequently § 108(b) gives a

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[5] We are aware that the term "pleading" at times is given a somewhat limited meaning. For example, under Rule 7(a) of the Federal Rules of Civil Procedure, "pleadings" include a complaint, an answer, a reply to a counterclaim, an answer to a cross-claim, a third-party complaint, and a third-party answer. Black's Law Dictionary also gives the term "pleadings" a relatively specific meaning: "The formal allegations by the parties to a lawsuit of their respective claims and defenses, with the intended purpose being to provide notice of what is to be expected at trial." Black's Law Dictionary 1152 (6th ed. 1990).

However, we think the term "pleading" ordinarily has a broader meaning. For example, the term frequently is used to describe broad categories of documents filed by the parties in court proceedings. See American Heritage Dictionary of the English Language 1389 (3d ed. 1992) (defining "pleading" as "[t]he consecutive statements, allegations, and counter allegations made in turn by plaintiff and defendant, or prosecutor and accused, in a legal proceeding"). In § 108(b), we feel that Congress used the term "pleading" in the more generic sense.

We also think that the term "notice" ordinarily is broadly viewed as a statement of information that is communicated. See Black's Law Dictionary 1061 (6th ed. 1990). Black's defines "notice of appeal" as "[a] document giving notice of an intention to appeal." Id. at 1062. A notice of appeal, then, is plainly a form of notice. In any event, we are convinced that a notice to initiate an appeal is a "similar act" to pleadings and notices as those terms are commonly used.

debtor in possession or a trustee an extended period for filing a notice of appeal of up to 60 days, as long as the 30-day time period of Rule 4(a) has not expired when the bankruptcy petition is filed.

We feel that under § 108(b) NESS was required to file a notice of appeal "before the later of" either (1) the period provided by applicable nonbankruptcy law, or (2) "60 days after the order for relief."[6] The time period under relevant nonbankruptcy law, Rule 4(a)(1), would have expired 30 days after the district judge entered the preliminary injunction on April 21, 1992 or on May 21, 1992. However, the extended 60-day time period provided by § 108(b)(2) began running on the date of the commencement of the Chapter 11 case -- April 27, 1992. The 60-day period extended to and included June 26, 1992, the day NESS filed its notice of appeal. NESS thus commenced the appeal within the extended time period provided by § 108(b).

B. Effect of Rule 4(a) on § 108(b)(2)

Autoskill argues that by extending the time for filing a notice of appeal, § 108(b) would override the explicit language of Rule 4(a)(1) which provides a 30-day period for filing notices of appeal "in all civil cases." Fed. R. App. P. 4(a) advisory committee's note. Autoskill would have us determine the effect of the two provisions, § 108(b) and Rule 4(a)(1), by applying the abrogation clause in the Rules Enabling Act, which provides that "[a]ll laws in conflict with

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[6] As noted earlier, the commencement of the voluntary Chapter 11 case on April 27, 1992, constituted an "order for relief." 11 U.S.C. § 301.

such rules shall be of no further force or effect after such rules have taken effect." 28 U.S.C. § 2072(b).

We cannot agree with Autoskill that Rule 4(a)(1) supersedes § 108(b). The abrogation provision on which such argument is constructed is currently codified at 28 U.S.C. § 2072(b). This statute is generally viewed as applying so as to abrogate conflicting statutes enacted before the rules. See Penfield Co. v. Securities & Exch. Comm'n, 330 U.S. 585, 589 n.5 (1947) ("Where a Rule of Civil Procedure conflicts with a prior statute, the Rule prevails."); 4 Charles A. Wright & Arthur R. Miller, Federal Practice & Procedure § 1030 & n.2, at 125 (2d ed. 1987) ("Statutes enacted prior to the rules that are inconsistent with them are supersede.").

However, a subsequent statute prevails. 2 James N. Moore & Jo D. Lucas, Moore's Federal Practice ¶ 1.02[5], at 1-10 (2d ed. 1992) ("A clearly inconsistent statute enacted subsequent to the Rules' effectiveness would . . . supersede or modify any conflicting Rule."). Rule 4(a)(1), with its 30-day time limit for filing notices of appeal, became effective July 1, 1968.[7] The rule as prescribed in 1967 provided, inter alia, that "the notice of appeal required by Rule 3 shall be filed with the clerk of the district court within 30 days of the date of the entry of the judgment or order appealed from." 43 F.R.D. at 69; see also 28 U.S.C. app. Fed. R. Civ. P. 4(a) (1970). The rule in 1968 thus contained the same provisions, with minor exceptions, as it

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[7] The Supreme Court prescribed the Federal Rules of Appellate Procedure by an order entered on December 4, 1967. See 43 F.R.D. 61, 67. The order made the rules effective on July 1, 1968, after having been reported to the Congress. 28 U.S.C. § 2072; 43 F.R.D. at 113.

did in 1978 when § 108(b) was adopted.[8] Therefore, the rule did not abrogate or supersede § 108(b) which was subsequently enacted in 1978.[9]

We are persuaded that this interpretation serves the legislative purpose in adopting § 108(b). As is apparent from § 108(b) itself, this bankruptcy provision was included to afford a trustee or debtor in possession a longer period to determine the advisability of further steps in litigation or business transactions to protect the interests of the bankruptcy estate. Both the House and Senate committee reports contained identical, broad statements that § 108(b) permits "the trustee, when he steps into the shoes of the debtor, an extension of time for filing an action or doing some other act that is required to preserve the debtor's rights." H.R. Rep. No. 595, 95th Cong., 1st Sess. 318 (1977); S. Rep. No. 989, 95th Cong., 2d Sess. 30 (1978).

C. Effect of the Automatic Stay on § 108(b)(2)

Autoskill contends that even if § 108(b) extended NESS' time for filing the notice of appeal, the automatic stay of § 362 then in effect made the filing a void act. Under §

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[8] In our view the two changes that have been made to this language were not substantive, and do not affect our application of § 2072. A 1979 amendment changed the phrase "within 30 days of the date" to read "within 30 days after the date." The change was made for "clarity only" and did not change the meaning of the rule. Fed. R. App. P. 4(a)(1) advisory committee's note. In addition, the word "the" has been deleted before the phrase "entry of the judgment."

[9] The Bankruptcy Code, including § 108, was approved on November 6, 1978. Bankruptcy Reform Act of 1978, Pub. L. No. 598, 92 Stat. 2549, 2688 (1978). Section 108 became effective on October 1, 1979. See id. Pub. L. No. 598, sec. 402(a), 92 Stat. 2682 (1978).

362(a)(1) a petition in bankruptcy stays the "continuation. . . of a judicial, administrative, or other action or proceeding against the debtor that was . . . commenced before the commencement" of the bankruptcy proceeding. Autoskill relies upon the rule that § 362 stays "all appeals in proceedings that were originally brought against the debtor, regardless of whether the debtor is the appellant or appellee." Association of St. Croix Condominium Owners v. St. Croix Hotel Corp., 682 F.2d 446, 449 (3d Cir. 1982) (emphasis original).

We disagree. Autoskill's argument ignores the first ground cited by the bankruptcy judge in recognizing the validity of the appeal: that Rule 6009 of the Bankruptcy Rules supported NESS' prosecution of the appeal.[10] As we read his ruling, the bankruptcy judge felt that Rule 6009 allowed NESS to prosecute its appeal from the preliminary injunction without obtaining relief from the automatic stay of § 362, and we agree.[11]

Rule 6009 allows a trustee or debtor in possession "[w]ith or without court approval" to "enter an appearance and defend any pending action or proceeding by or against

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[10] The Rules were prescribed by the Supreme Court on April 25, 1983.

[11] In what seems to have been an alternative ruling, the judge stated that, Rule 6009 notwithstanding, he was lifting or annulling the automatic bankruptcy stay in order to allow NESS to "file a notice of appeal and prosecute an appeal of the preliminary injunction." Appellant's App. at 162. Further, the judge stated that "[t]o the extent that acts have been taken by the Debtor prior to this Order, the stay is annulled and this order is effective nunc pro tunc to validate such acts." Id. In sum, the judge's order made relief from the stay retroactive. Autoskill did not appeal the order granting NESS relief from the stay.

the debtor, or commence and prosecute any action or proceeding in behalf of the estate."

The plain language of Rule 6009 enabled NESS to "commence" this appeal, which certainly was a "proceeding in behalf of the estate." See 8 Collier on Bankruptcy ¶ 6009.03 & n.7, at 6009-3 (15th ed. 1992). "Rule 6009, along with Code section 362 itself, makes it clear that the automatic stay does not apply to the continued prosecution of actions by the trustee or debtor in possession. Those entities may continue or pursue litigation without leave of court (or release of stay under section 362)." Id. Rule 6009 enabled NESS to prosecute this appeal without the authorization of the bankruptcy court and the notice of appeal was not a void act.

In its memorandum in support of its motion to dismiss this appeal, Autoskill argues that the automatic bankruptcy stay acts to stay an appeal by the debtor from an adverse decision in a nonbankruptcy suit brought against it, such as Autoskill's suit for copyright infringement, citing St. Croix, inter alia. There the pendency of a Chapter 11 reorganization petition was revealed in briefs filed with the Third Circuit. That court entered an order staying the appeal, stating that its order "staying this proceeding is without prejudice to the rights of the parties to apply to the Bankruptcy Court for relief from the provisions of section 362 . . . ." Id. at 449; see Borman v. Raymark Indus., Inc., 946 F.2d 1031, 1036-37 (3d Cir. 1991) (applying St. Croix rule to stay appeal where debtor filed bankruptcy petition after oral argument but before disposition); Ingersoll-Rand Fin. Corp. v. Miller Mining Co., 817 F.2d 1424, 1426-27 (9th Cir. 1987) (staying appeal); Commerzanstalt v. Telewide Sys., Inc., 790 F.2d 206, 207-08 (2d Cir. 1986) (same); Cathey v.

Johns-Manville Sales Corp., 711 F.2d 60, 62 (6th Cir. 1983) (same).

St. Croix does not support NESS' [*SIC.* Autoskill's?] motion that we dismiss this appeal as invalid. It is apparent from the order as quoted above that the validity of the appeal in St. Croix was not rejected by the Third Circuit and that the court was merely staying the appellate proceeding, affording the parties an opportunity to have the stay of § 362 lifted. That has already been done in the instant case, by application to the bankruptcy court which granted that relief on July 16, 1992, in addition to holding that Rule 6009 of the Bankruptcy Rules controlled, permitting the prosecution of the appeal by NESS.

In sum, we hold that NESS' appeal was timely and valid and deny the motion to dismiss.

III. THE PRELIMINARY INJUNCTION

We turn now to NESS' claims of error in the granting of the preliminary injunction by the district court.

The Copyright Act authorizes a federal court to "grant temporary and final injunctions on such terms as it may deem reasonable to prevent or restrain infringement of a copyright." 17 U.S.C. § 502(a). A district judge may grant a preliminary injunction if the moving party demonstrates:

> (1) substantial likelihood that the movant will eventually prevail on the merits; (2) a showing that the movant will suffer irreparable injury unless the injunction issues; (3) proof that the threatened injury to the movant outweighs whatever damage the proposed injunction may cause the opposing party; and (4) a

showing that the injunction, if issued, would not be adverse to the public interest.

Hartford House, Ltd, v. Hallmark Cards, Inc., 846 F.2d 1268, 1270 (10th cir.) (quoting Lundgrin v. Clayton 619 F.2d 61, 63 (10th Cir. 1980)), cert. denied, 488 U.S. 908 (1988); see also, e.g., Resolution Trust Corp. v. Cruce, 972 F.2d 1195, 1198 (10th Cir. 1992); Otero Sav. & Loan Ass'n v. Federal Reserve Bank of Kansas City, 665 F.2d 275, 278 (10th Cir. 1931). The district judge concluded that Autoskill demonstrated all four factors. We will not set aside a preliminary injunction on appeal "[u]nless the district court abuses its discretion, commits an error of law, or is clearly erroneous in its preliminary factual findings." 846 F.2d at 1270.

A. Likelihood of Success on the Merits

To demonstrate a substantial likelihood of success Autoskill was required to present "a prima facie case showing a reasonable probability that [it] will ultimately be entitled to the relief sought." Continental Oil Co. v. Frontier Ref. Co., 338 F.2d 780, 781 (10th Cir. 1964). Autoskill was not required to show to an absolute certainty that it has a right to prevail on the infringement claim at trial. See id. at 781. Rather, under our "liberal definition" of the likelihood of success factor, "[w]hen the other three requirements for a preliminary injunction are satisfied, 'it will ordinarily be enough that the plaintiff has raised questions going to the merits so serious, substantial, difficult and doubtful, as to make them a fair ground for litigation and thus for more deliberate investigation.'" Otero Sav. &

Loan Ass'n, 665 F.2d at 278 (10th Cir. 1981) (quoting Hamilton Watch Co. v. Benrus Watch Co., 206 F.2d 738, 740 (2d Cir. 1953)).

Thus Autoskill was required to present at least a prima facie case of infringement. To prove copyright infringement a plaintiff is required to show: "(l) ownership of a valid copyright, and (2) copying of constituent elements of the work that are original." Feist Publications, Inc, v. Rural Tel, Serv, Co., ___ U.S. ___ 111 S. Ct. 1282, 1296 (1991). NESS challenges the district judge's conclusion that Autoskill established these elements.

1. Ownership of Valid Copyright

The Copyright Act provides that a certificate of registration of a copyright "shall constitute prima facie evidence of the validity of the copyright and of the facts stated in the certificate." 17 U.S.C. § 410(c). By presenting a registration certificate a party establishes the validity of the copyright prima facie and the burden to dispute the validity of the copyright then shifts to the party challenging it. See Harris Market Research v. Marshall Mktg. & Communications, Inc., 948 F.2d 1518, 1526 (10th Cir. 1991). The district judge ruled that NESS failed to present either argument or evidence sufficient to rebut Autoskill's prima facie showing of the validity of its copyright. 793 F. Supp. at 1563.

As proof of ownership, Autoskill presented evidence of the certificate of registration, No. TX 1 742 632, obtained on its reading program. Appellant's App. at 471-72. In the registration certificate Autoskill identified itself as the author of the work and described the nature of its authorship as

"[h]irer of entire work comprising program and including manual." Id. (emphasis added). We think the "facts stated in the certificate," to which the statutory presumption of validity extends, logically include the identification of the author and the statement that the entire work was made for hire. By introducing the registration certificate in which it identified itself as the author, then, Autoskill presented prima facie evidence that it was the owner of the copyright. See Broadcast Music, Inc. v. Moor-Law, Inc., 484 F. Supp. 357, 363 (D. Del. 1980) ("Where the plaintiff in an infringement action is also the author of the composition, the registration statement is also generally prima facie evidence of ownership."); see also 3 Melville B. Nimmer & David Nimmer, Nimmer on Copyright § 12.11[C], at 12-158 (1992) [hereinafter Nimmer] (explaining that plaintiff who first registers copyright in plaintiff's name thus obtains certificate that "constitutes prima facie evidence of the validity of his copyright, and of the facts stated therein"). We hold that Autoskill satisfied its initial burden on the ownership element by establishing a prima facie case on this issue.

NESS argues that the district judge erred factually and legally in ruling that Autoskill was the owner of the United States copyright. One principal contention of *NESS* is that the judge erred in holding that Community for Creative Non-Violence v. Reid, ___ U.S. ___, 109 S. Ct. 2166 (1989), should not be retroactively applied to this controversy. And under Reid NESS says this was not a work made for hire because Autoskill's programmers were not its employees

under the common law agency test adopted by Reid. Appellant's Brief at 42-43.[12]

On the retroactivity point, we agree with NESS. It is now settled that "[o]nce retroactive application is chosen for any assertedly new rule, it is chosen for all others who might seek its prospective application." James B. Beam Distilling Co v. Georgia, ___ U.S. ___ 111 S. Ct. 2439, 2447-48 (1991) see Anixter v. Home-Stake Prod. Co., 977 F.2d 1533, 1543 (10th Cir. 1992), cert. denied, ___ S. Ct. ___ (1993); Gray v. Phillips Petroleum Co., 971 F.2d 591, 596 (10th Cir. 1992). In Reid the new rule adopted was applied to the litigants before the Court; hence, selective non-retroactivity is barred in all other cases as to that new rule. Thus Reid should be applied here, but this does not carry the day for NESS.

NESS had the burden of rebutting the statutory presumption of Autoskill's ownership of the copyright. NESS says the "uncontroverted evidence at both hearings is that all versions of the Autoskill programs were programmed in Canada by contract programming companies or individuals, none of whom worked for Autoskill." Appellant's Brief at 42 (footnote omitted). We note that Dr.

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[12] As a general rule copyright ownership "vests initially in the author or authors of the work." 17 U.S.C. § 201(a). The author of a work is usually "the party who actually creates the work, that is, the person who translates an idea into a fixed, tangible expression entitled to copyright protection." Reid, 109 S. Ct. at 2171.

The statute provides that "[i]n the case of a work made for hire, the employer or other person for whom the work was prepared is considered the author" unless the parties agree otherwise. 17 U.S.C. § 201(b). The Copyright Act defines a "work made for hire" as either "a work prepared by an employee within the scope of his or her employment" or one of certain works specially ordered or commissioned. 17 U.S.C. § 101.

Trites was asked by NESS' counsel about Edfour Education Consultants,[13] the programming firm used by Autoskill and referred to in Autoskill's copyright certificate as a manufacturer. Trites replied that Edfour was paid under an "independent contract" and its people were not "employees" of Autoskill at the time of that work. Appellee's Supp. App. at 211-12.

The broad assertions by NESS about Autoskill's programming and the sparse evidence it presented on the issue do not address the critical question raised, i.e., whether the Autoskill programmers -- companies or individuals -- were or were not employees of Autoskill, considering the relevant factors under the "common law agency law meaning." Reid, 109 S. Ct. at 2172.[14] We have

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[13] The trial judge found that Edfour Education Consultants did the original computer programming for the Autoskill program. 793 F.Supp. at 1559.

[14] Agency law uses the term "servant" to describe an "employee." See Restatement (Second) of Agency § 2 cmt. d, § 220 cmt. g (1958). Determining whether one acts as servant for another involves consideration of a number of fact-based criteria:

> (a) The extent of control which, by the agreement, the master may exercise over the details of the work;
> (b) whether or not the one employed is engaged in a distinct occupation or business;
> (c) the kind of occupation, with reference to whether, in the locality, the work is usually done under the direction of the employer or by a specialist without supervision;
> (d) the skill required in the particular occupation;
> (e) whether the employer or the workman supplies the instrumentalities, tools, and the place of work for the person doing the work;
> (f) the length of time for which the person is employed;
> (g) the method of payment, whether by the time or by the job;

considered the references in NESS' brief which it relies upon, Appellant's Brief at 8-21, 44, and find no substantial evidence identified which addresses the important factors under the common law of agency which NESS relies on. See supra note 14. The state of the record is such that this issue -- whether the programmers were Autoskill's employees -- remains a fair ground for litigation. The prima facie case of Autoskill was not sufficiently rebutted to justify reversal of the preliminary injunction on this point.

Furthermore, we note that there was proof on another basis to establish Autoskill's ownership of the copyright. NESS identified Edfour as the contract programmer on the first version of the Autoskill program. Appellant's Brief at 12. With respect to Edfour, there was testimony by Dr. Trites that Autoskill had received an assignment of rights from Edfour[15]. Appellee's Supp. at 211-12. The assignment was not in Dr. Trites' possession at the hearing, but the specific testimony about the assignment was given

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(h) whether or not the work is a part of the regular business of the employer;

(i) whether or not the parties believe they are creating the relation of master and servant; and

(j) whether the principal is or is not in business.

Restatement (Second) of Agency § 220(2) (1958).

[15] NESS argues that under 17 U.S.C. § 205(d), Autoskill was required to show that any assignment was recorded in the Copyright Office as a prerequisite to bringing an infringement action as a transferee. However, the section requiring recordation as a prerequisite to an infringement action was repealed March 1, 1989, more than two years before Autoskill filed this action. Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat. 2853, 2861 (1988) (adopting effective date of Berne Convention, March 1, 1989).

in response to NESS, questioning, it was not objected to nor contradicted, and it is still undisputed at this point.[16]

In sum, we are not persuaded that the preliminary injunction should be reversed on the basis of the ownership showing.

2. Copying

In a copyright infringement action a "plaintiff may prove defendant's copying either by direct evidence or, as is most often the case, by showing that (1) the defendant had access to the plaintiff's copyrighted work, and (2) defendant's work is substantially similar to the plaintiff's copyrightable material." Computer Assocs, Int'l. Inc, v. Altai, Inc., 982 F.2d 693, 701 (2d Cir. 1992); 3 Nimmer § 13.01[B], at 13-10 to -11. These two types of circumstantial evidence of infringement are accepted because direct evidence of copying is rarely available. Baxter v. MCA, Inc., 812 F.2d 421, 423 (9th Cir.), cert. denied, 484 U.S. 954 (1987). NESS contends that Autoskill demonstrated neither access nor substantial similarity.

a. Access to the Copyrighted Work

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[16] NESS also says that on the ownership issue we should apply Canadian law which has no work for hire provision. Appellant's Brief at 44-45. Autoskill argues that the foreign law was not raised below by proper notice as required by Rule 44.1 of the Federal Rules of Civil Procedure. No response to this waiver point was made in the Reply Brief of Appellant NESS and no reference is made by NESS to any place in the record showing proper notice and assertion of the issue below. It may not be relied on here.

Addressing the access prong, the district judge noted that the founders of NESS, Neil and Manning, were "thoroughly familiar with the Autoskill Program." 793 F. Supp. at 1559 (finding No. 14). Neil, the judge found, had sold ICON computers for UNISYS with Autoskill software for four years. Id. Further, the court found that the supervisor of the programming of the NESS program had reviewed "a document which describes the Autoskill Program in detail." Id. (finding No. 22). The judge concluded "there is no question that NESS had access to the Autoskill Program." Id.

On access, a plaintiff may meet his initial burden by showing that the defendant had a "reasonable opportunity to view" or "opportunity to copy" the allegedly infringed work. 3 Nimmer § 13.02[Al & n.5, at 13-15 to -16; see also, e.g., Robert R. Jones Assocs., Inc. v. Nino Homes, 858 F.2d 274, 277 (6th Cir. 1988) (concluding "[a]ccess merely means an opportunity to view the protected material"). We agree that defining access as the "opportunity" to view or copy makes sense for the purposes of shifting the burden to the defendant, and we follow this approach. See 3 Nimmer § 13.02[Al n.5, at 13-15. NESS makes no argument that the judge's underlying factual findings on this point are clearly erroneous and those findings establish opportunity.

b. Substantial Similarity

As the district judge found, the Autoskill program "is based primarily upon the identification of three reading sub-types of students who are experiencing reading difficulties." 793 F. Supp. at 1559. In general, the Autoskill program is designed to improve the student's rapid

automatic responses to training stimuli. The Autoskill program first tests the students in order to identify their subtype for training purposes. Autoskill tests students for "oral reading, audio-visual matching, visual matching and visual scanning," in that order. Id.

The tests are presented according to 13 categories of word form types, which are based on different combinations of vowels and consonants. The tests use words and nonwords and record accuracy and speed of response. Id. at 1560. Based upon the results of the testing in Autoskill, students are assigned a training program that corresponds to their subtypes. "Training proceeds hierarchically from the simplest skills to the most complex." Id. Students receive immediate feedback to their responses, and in order to move to the next subprogram must achieve a 95 percent accuracy rate over three, consecutive 50-trial blocks, with a speed of no slower than 100 milliseconds. Id.

Comparing the Autoskill and NESS programs, the district judge found numerous similarities and concluded that NESS had merely changed the names and sequence of the tests and had made minor format changes of "no pedagogical value." Id. at 1561. The testing categories in the NESS program have similar names to those in Autoskill: "reading aloud, audio identification, visual identification and visual scanning." Id. at 1560. The judge found that the three main sections of each program are testing or diagnosis, profile analysis, and training. In both programs, the judge found, students progress from the simplest skills to the most complex and overall are "trained in substantially the same way." Id. He also concluded that in both programs students must attain similar criteria during training in order to move

to the next level, and that both programs present similar profiles reflecting student speed and accuracy. Id.

Substantial similarity analysis concludes with a comparison of portions of the alleged infringer's works with the portions of the complaining party's works which are determined to be legally protectible under the Copyright Act. To determine whether any portions of Autoskill's computer program were protectible, the district judge used a three-step method of analysis recommended in 3 Nimmer § 13.03[F], at 13-80, a variation of which was recently adopted by the Second Circuit in Altai: abstraction, filtration, and comparison.[17] In this preliminary injunction appeal we need not decide which is precisely the correct method of analysis for a final copyright judgment, Plains Cotton Cooperative Association v.Goodpasture Computer Service, Inc., 807 F.2d 1256, 1262 (5th Cir.), cert. denied, 484 U.S. 821 (1987), because we are satisfied that the trial judge

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[17] We are mindful that Altai is just one of the approaches courts have used in analyzing the substantial similarity of computer programs. See, e.g., Altai, 982 F.2d at 706 (adopting abstraction, filtration, comparison approach); Whelan, 797 F.2d at 1235-36 (adopting rule for separating idea from expression in computer programs); Gates Rubber Co. v. Bando Am., Inc., 798 F. Supp. 1499, 1513 (D. Colo. 1992) (adopting modification of Whelan approach based on Dawson v. Hinshaw Music Co., 905 F.2d 731 (4th Cir. 1990) in conjunction with the abstraction test).

However, here the district judge's use of a test like that articulated in Altai by the Second Circuit to determine substantial similarity was not at issue. In its brief, NESS noted that the "proper way to examine the issue has been laid out in a number of recent cases . . . but the Altai case is the most explicit." Appellant's Brief at 30. Of course NESS does argue vigorously that the judge misapplied the Altai test. Autoskill cites Altai and then states that "the trial court applied an appropriate method, recommended by the Second Circuit in Altai," saying that the method used below runs "very similar to that used by the Second Circuit in Altai." Appellee's Brief at 16.

used a permissible method of analysis here; moreover Autoskill showed a likelihood of success in defining as protectible the portions of its program for which the judge granted preliminary injunctive relief, after finding there was substantial similarity between the identified portions of the NESS and Autoskill programs which the judge compared. The choice of the precise test for such analysis can await an appeal requiring that choice, perhaps preferably one from a final copyright judgment.

1. The Abstractions Analysis

One of the fundamentals of copyright law is that a copyright does not protect an idea, but only the expression of the idea. **See, e.g., Baker v. Selden**, 101 U.S. 99, 104, 107 (1879); Mazur v. Stein, 347 U.S. 201, 217 (1954); see also 17 U.S.C. § 102(b) (codifying idea/expression distinction). This idea/expression dichotomy applies to computer programs. Altai, 982 F.2d at 703. Thus, in general, the portions of a computer program that are "ideas" are nonprotectable, and the portions that represent "expression" may be protected. "Infringement is shown by a substantial similarity of protectible expression, not just an overall similarity between the works" 3 Nimmer § 13.03[F], at 13-82 (emphasis in original). Separating idea from expression, then, is one of the basic parts of a substantial similarity analysis.

In order to separate idea from expression, the judge here chose an approach known as the "abstractions" test or analysis. In articulating the approach, Judge Learned Hand explained:

> Upon any work, and especially upon a play, a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. The last may perhaps be no more than the most general statement of what the play is about, and at times might consist only of its title; but there is a point in this series of abstractions where they are no longer protected, since otherwise the playwright could prevent the use of his "ideas," to which, apart from their expression, his property is never extended.

Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir. 1930), cert. denied, 282 U.S. 902 (1931). Because Judge Hand's abstractions approach generally "mirrors" the process that computer programmers use,[18] it is particularly

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[18] A programmer begins by identifying the program's "function," or "what the program actually does, in contrast to its 'implementation,' which is the method, including the instructions, that allow a program to accomplish that function." Steven R. Englund, Note, Idea, Process, or Protected Expression?: Determining the Scope of Copyright Protection of the Structure of Computer Programs, 88 Mich. L. Rev. 866, 870 (1990) [hereinafter Englund].

After identifying the ultimate function, a programmer develops an outline for the program. 3 Nimmer § 13.03 [F], at 13-85. The programmer "decomposes that function into simpler constituent problems or 'subtasks.'" Englund at 870. The portion of a program implementing a subtask is sometimes called a module or a subroutine. Id. at 871; 3 Nimmer § 13.03[F], at 13-85. A module or subroutine is "a relatively short sequence of instructions in some programming language that, when executed, performs some well-defined function that is one of the subtasks defined in the course of decomposing the ultimate function of the program." Englund at 871. "The functions of the modules in a program, together with each module's relationship to other modules constitute the 'structure' of the program." Id. The structure is the nonliteral aspect of computer programs.

suited to the substantial similarity analysis for computer programs. See 3 Nimmer § 13.03 [F] [1].

The trial judge here recognized that at the "highest and most general" level of abstraction the Autoskill program is "a reading program designed to diagnose, re-mediate and teach reading skills through the use of the computer." 793 F. Supp. at 1566. This level was thus treated as "idea" matter, not entitled to protection. Then the judge also excluded from the area of protection, Autoskill's use of the three subtypes of students with reading difficulties -- types 0, A, and S -- explaining that [b]ecause these particular sub-types are identified and discussed in the literature available to the public, Autoskill is not entitled to protection from their use by others with testing or, diagnosing, profiling and training." Id. at 1566. The judge explained that [t]he identification of those sub-types by researchers would be of little value[] if such theories were not allowed practical application to real students" and that to "allow such protection would grant Autoskill a virtual monopoly over those concepts and serve to thwart efforts of others to build upon them." Id. (citing Feist, 111 S. Ct. at 1290).

After designing the program conceptually, the programmer writes instructions in a "written language that the computer can read." Altai, 982 F.2d at 698; See 3 Nimmer § 13.03[F], at 13-85. The programmer usually writes a "source code" in one of several computer languages. Whelan Assocs., Inc, v. Jaslow Dental Lab., Inc., 797 F.2d 1222, 1230 (3d Cir. 1986), cert. denied, 479 U.S. 1031 (1987). The source code then is translated into an "object code," which is a binary code in Os and ls. Id. at 1230-31. These codes, which are the literal aspects of computer programs, are protectable by copyright. Altai, 982 F.2d at 702; see also Whelan, 797 F.2d at 1233 (listing cases).

Autoskill does not claim infringement of its source code. 793 F. Supp. at 1563.

The judge ruled, however, that "[t]he manner in which Autoskill utilizes those ideas and communicates them to students and teachers in the context of its reading program amounts to expression. Such expression can extend to the organization, structure and sequence if they are original." Id. The judge then proceeded to consider "Protectible v. Non-Protectible Expression," id., in his subsequent filtration analysis when he determined which elements of expression survived for protection. We treat filtration below.

NESS essentially makes two complaints about the abstractions analysis of the trial judge. First, there is a generalized criticism that he erred when he "proceeded to examine the similarities in the highest level of abstraction (the functions performed) between Autoskill and NESS' programs." Appellant's Brief at 32.

We disagree. As noted, we feel that the judge used a permissible method of analysis and reached reasonable conclusions, although we are not deciding which precise method of analysis should be followed in a final copyright decision. Under the abstractions analysis outlined in Altai a judge essentially retraces, in reverse order, the steps taken by the program's designer, beginning with the code and ending with the program's ultimate function. Altai, 982 F.2d at 707. It is true that the trial judge's analysis and conclusions here do not reveal precisely the abstractions analysis outlined in Altai, cited by both NESS and Autoskill. However, we feel we should focus on the court's findings and conclusions, and his resulting ruling on protectible areas of expression, rather than on the precise method of analysis the judge used.

We are not persuaded at this preliminary injunction stage that the judge's rulings should be reversed simply

because of a lack of any particular detail in his analysis. See Altai, 982 F.2d at 714 ("While the facts of a different case might require that a district court draw a more particularized blueprint of a program's overall structure, this description is a workable one for the case at hand."). Moreover, we find no persuasive presentation by NESS of any conflicting abstractions analysis which was presented below. We feel the record amply supports the judge's conclusions made as to the nonprotectable and protectable features of the Autoskill program for the purposes of a preliminary injunction.

We are convinced that the record furnishes an ample factual basis for the trial judge's analysis on the levels of abstraction and his conclusions as to which were idea levels not entitled to protection, and which were in the expression area and possibly eligible for protection after filtration analysis. There was detailed testimony by Autoskill's expert, Dr. Olson,[19] that recognized the highest two levels

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[19] NESS challenges the reliance of the trial judge on testimony of Autoskill's experts, particularly Dr. Olson, who was admittedly not a programmer.

In his findings the judge analyzed carefully the qualifications of the experts. 793 F. Supp. at 1561. He referred to Dr. Olson's strong background in reading education and the use of software in reading education. Dr. Olson detailed his academic credentials, including his Ph.D. in psychology. Appellee's Supp. App. at 133-34. Olson pointed out his focus on reading and working with children with reading disabilities for approximately the past 15 years. For six or seven years Dr. Olson had been involved in research regarding the use of software in reading and he had personally designed reading education software. He stated that he was not a "programmer." Id. at 134. He directed the basic design of the project and how the studies are to be run in the schools, and had authored about 39 publications related to reading, 14 of which were related to software also. Id. at 134-35.

of abstraction demonstrated in Autoskill's Exhibit AC, Appellee's Supp. App. at 319, as unprotectable idea levels. Dr. Olson explained that it was below the highest two levels of abstraction that "we are starting to get into some very specific aspects of expression of those top two level ideas." [20] Appellee's Supp. App. at 157. As the judge noted, the experts' opinions may be helpful, but their legal conclusions on these points are not binding. 793 F. Supp. at 1570. The consideration of the experts' views on these matters in drawing the judge's conclusions was within his discretion and not error. Altai, 982 F.2d at 713-14.

Second, NESS argues that the judge erroneously prevented the use by others of educational processes, methods and procedures, Appellant's Brief at 23-25, citing 17 U.S.C. § 102(b) and its provision that copyright protection does not extend to "any idea, procedure, or process, [or] system . . . ." We are not persuaded.

The judge explicitly dealt with § 102(b) and pointed out that more than literal application of the statute is required. See Toro Co. V. R & R Prods. Co., 787 F.2d 1208, 1211-12 (8th Cir. 1986). He faced up to the need to deal with the idea/expression dichotomy, appropriately analyzing the dichotomy as discussed in Baker v. Selden. 793 F. Supp. at

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We are satisfied the findings of the trial judge on the qualifications of the experts were not clearly erroneous and that he did not abuse his discretion in the weight he gave to their testimony.

[20] Exhibit AC diagramed the "Levels of Abstraction Approach." It broke them down into: (I) recognition that at highest level of abstraction both programs share common ideas of using a computer to diagnose, remediate and teach reading skills; (II) distinctions between subtypes in diagnosis and training; (III) specific subtypes diagnosis and training of Type 0, A, and S; and (IV) details of testing and training.

1564. In his abstractions analysis and conclusions he excluded from protection the highest two levels of abstraction in the Autoskill program, as we have noted above, and left only the lower levels for further consideration in his filtration discussion and possible protection.

In sum, we are not convinced that NESS has demonstrated any reversible error in the trial judge's abstractions analysis. For purposes of review of a preliminary injunction, on this issue we feel that Autoskill has shown a substantial likelihood of success.

2. The Filtration Analysis

Under the second step of his analysis -- filtration -- the judge considered whether any of the expression of the Autoskill program should be excluded from copyright protection. The step requires that a court examine the program's "structural components at each level of abstraction" to determine whether they are excludable under traditional copyright doctrines. Altai, 982 F.2d at 707.[21] By removing unprotected expression from the analysis, the filtration step "serves 'the purpose of defining the scope of

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[21] Altai defined the filtration step as the step in which a court examines "the structural components at each level of abstraction to determine whether their particular inclusion at that level was 'idea' or was dictated by considerations of efficiency, so as to be necessarily incidental to that idea; required by factors external to the program itself; or taken from the public domain and hence is nonprotectable expression." 982 F.2d at 707. The judge in this case expressly analyzed the Autoskill program under the idea/expression dichotomy in his abstraction analysis, as we have noted earlier. We conclude this difference in labelling of the analyses was unimportant.

plaintiff's copyright.'" 982 F.2d at 707 (quoting Brown Bag Software v. Symantec Corp., 960 F.2d 1465, 1475 (9th Cir. 1992)); see 3 Nimmer § 13.03[C], at 13-71.

Applying the related copyright doctrines of merger and scènes à faire, the judge filtered out two aspects of the Autoskill program. The merger doctrine excludes expression from copyright protection if it is "merged" inseparably with an idea. 3 Nimmer § 13.03[B][3], at 13-65. The judge filtered out the 13 categories of vowel and consonant combinations used in the Autoskill program because he concluded they were an aspect of expression that is dictated by teaching reading in English, and thus is merged with the idea of the reading program. 793 F. Supp. at 1568.

The judge also addressed whether any aspects of the expression in the Autoskill program were merged with the idea of testing and training the three subtypes of readers, and thus were nonprotectable. The judge found "no evidence that the idea of testing, diagnosing and training the particular sub-types could be expressed in only one way." Id. at 1560. The judge also found that "the idea of testing, diagnosing and training the particular sub-types is capable of being expressed in more than one way." Id. Thus the judge held that the idea of the Autoskill program for testing, diagnosing, and training the three subtypes need not be denied copyright protection under the merger doctrine. Id. at 1567.

NESS does not specifically challenge the judge's factual findings on merger, but instead makes a general argument that the judge's ruling conflicts with the merger doctrine. Appellant's Brief at 33. We are not persuaded by this unsupported, vague argument and feel that the judge's

findings were not clearly erroneous and that he properly concluded he should deny exclusion on the merger theory.

The scènes à faire doctrine in general excludes from copyright protection material that is "standard," "stock," or "common" to a particular topic, or that "necessarily follow[s] from a common theme or setting." 3 Nimmer § 13.03[B] [4], at 13-70. Applying this doctrine, the judge also filtered out the "silent sentence" and "silent paragraph" components of the Autoskill program because he concluded they were "so standard to the field that they cannot be afforded protection." 793 F. Supp. at 1568.

NESS further contends that the trial judge erred in the filtration analysis by not finding that the components of the Autoskill program at issue were either scènes à faire matter, or were taken from the public domain. Any components of the program that were taken from the public domain would be "free for the taking." Altai, 982 F.2d at 710. "It is axiomatic that material in the public domain is not protected by copyright, even when incorporated into a copyrighted work." 3 Nimmer § 13.03[F][4], at 13-98. NESS contends that features of the Autoskill program sought to be protected were taken from the Doehring study upon which the Autoskill program was based and were common and obvious methods of testing subjects. Appellant's Brief at 34-37.

Autoskill argues in response that its program involves substantial additional elements constituting original expression as shown by the testimony of Dr. Olson and Dr. Moya on the uniqueness of the Autoskill program, and by the testimony of Dr. Trites and Dr. Fiedorowicz on necessary changes and differences from Doehring's approach. Appellee's Brief at 42-43.

The trial judge did not discuss the public domain issue in those precise terms, but he made findings dealing with the substance of this contention. His findings stated that he was persuaded by the testimony of Dr. Olson and Dr. Moya. He cited their testimony on the many unique aspects of the Autoskill program and found that the opposing testimony of Dr. Norton of lack of uniqueness of the Autoskill program was less convincing than that of Dr. Olson and Dr. Moya. 793 F. Supp. at 1561 (findings Nos. 53, 54).

One of Autoskill's witnesses, Dr. Trites,[22] explained that Autoskill did not simply use Dr. Doehring's theories in a computerized form, but instead had to make "significant changes" to Dr. Doehring's techniques to develop effective training programs. Appellee's Supp. App. at 24. As an example of the process used in developing the Autoskill program, Dr. Trites explained that the original Autoskill testing to determine the reading subtypes was dependent on having a touch-sensitive screen on the computer. He further explained that the Autoskill system did not simply involve touching keys 1, 2, or 3, but involved looking at the word on the screen and responding with hands on the keyboard, a system that took considerable investigation and research staff work, and also that of statisticians and programmers. Id. at 25. This testimony shows that the

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[22] Dr. Trites is a principal in Autoskill, as is his wife, Dr. Fiedorowicz. Dr. Trites has been a computer programmer who worked with Burroughs Corporation, now Unisys. Appellee's Supp. App. at 23.

Autoskill program was unique and was not drawn directly from the Doehring research.[23]

As to uniqueness, Dr. Trites testified that the Autoskill program tested for 39 subskills, which were not the same subskills tested in the Doehring research. Dr. Trites testified that the NESS program used the same 39 subskills, which was not necessary because there were thousands of possible choices that could have been made. For example, he pointed out that while Autoskill used "CVCC" syllables, other skills could have been selected. Id. at 27.

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[23] This proof also disposes of a related argument. NESS contends that the judge erred in protecting the keying procedure the Autoskill program provides for students to respond to the audio-visual matching test. In the test, a student selects a response by pressing the 1, 2, or 3 keys. 793 F. Supp. at 1569. NESS argues that this is a "method" not protected by copyright. As noted, 17 U.S.C. § 102(b) precludes copyright protection for any "process" or "method of operation." But, as we have stated, we must go beyond the literal language of the statute and apply the idea/expression distinction to resolve this issue. See Toro Co., 787 F.2d at 1211-12.

Copyright protection extends to any "original works of authorship fixed in any tangible medium of expression." 17 U.S.C. § 102(a). The nonliteral aspects of computer programs certainly can be subject to copyright protection. "To qualify for copyright protection, a work must be original to the author. Original, as the term is used in copyright, means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity." Feist, 111 S. Ct. at 1287 (citation omitted). We think, for the purposes of the preliminary injunction, that the record showed that the keying procedure reflected at least a minimal degree of creativity. Further, NESS has not pointed to substantial evidence in the record that this procedure was such a common practice, or that it was dictated by efficiency considerations, so that it should have been filtered out of the analysis.

Another witness whose testimony was relevant to uniqueness, Dr. Moya,[24] explained that there was uniqueness in the Autoskill program in the manner in which it used the computer to record mastery and speed of response. The automaticity theory that Autoskill utilizes was not found in the other software programs. Dr. Moya also pointed to their manner of continuous reinforcement of the students, offering 50 trials to reinforce a student's response, as unique. He also mentioned Autoskill's presentation of graphs and its immediate feedback which was not found in other software programs. Id. at 267. In addition, he described the way that Autoskill assessed the abilities of students and divided them into three distinct subtypes, and then prescribed training according to those subtypes. In reporting to the superintendent, the committee considered this uniqueness of the Autoskill program in its recommendation, feeling that they had finally located a software program that was going to impact the reading instructional program in their school system and in their southwest area where reading scores are very low. Id. at 268-69.

As another point of departure from the Doehring research, Dr. Trites explained that the Autoskill program

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[24] Dr. Moya, who was the staff psychologist of the San Benedito School System of South Texas, had experience with computer software used in a program for project management. The school system used the computer program to track juveniles coming into the criminal justice system with unidentified learning disabilities. Dr. Moya was chair of a committee reviewing hardware and software for use in reading education. Appellee's Supp. App. at 259-61. The committee reviewed several software programs, including that of Autoskill. Dr. Moya personally operated each of the reading education software products for several hours. The committee selected the Autoskill software for their school.

emphasized errors as being more important than latency, a decision based on years of research. Id. at 28. Also, Dr. Trites testified that the Autoskill program contained unique aspects in assessing the subtypes of readers; to his knowledge, no programs other than Autoskill do a diagnostic assessment for a profile indicating a subtype of reading difficulty. Id. at 35.

Turning to NESS' witnesses, Dr. Norton testified that she operated the Autoskill program for at least an hour. Appellee's Supp. App. at 250. She was asked about the subtype approach as defined by Doehring and Hoshko. She said she knew that concept through the learning disabilities literature and "that there are learner characteristics or subskills to the overall word recognition that draw a different perceptual strength." Id. at 253. She agreed that in other reading software she was aware of there is no norm of using the zero and one keys in the same way that they are used in the Autoskill and NESS programs. Id. at 256. She also said there are no other marketed programs that pursue a sequence of 13, 14, or 15 skill patterns using sense and nonsense words; but she explained that there was software around that used the sense and nonsense words and Dr. Norton herself designed a program to teach the patterns they were talking about in 1980 or 1981. She found a lack of interest in it because some publishers she contacted "did not see computers in the schools ...." Id. at 257-58.

We note that the trial judge accepted Dr. Olson's testimony that no other programs of which he was aware used alternating sense and nonsense words. 793 F. Supp. at 1569. In light of the uncertainty in Dr. Norton's testimony on the point we cannot say the judge's acceptance of Olson's testimony was clearly erroneous.

Thus the judge heard considerable testimony that suggests that the Autoskill program was not identical to the testing outlined in the Doehring study. We feel that this evidence refutes NESS' argument that the Autoskill program was taken entirely from the public domain or was so standard to the topic as to be unprotectable scènes à faire material.

NESS also contends that the oral reading test in the Autoskill program is not subject to copyright protection because it is the equivalent of using flash cards, a method which it argues is taken from the public domain or is akin to scènes à faire material. In support of the argument NESS refers, in part, to testimony comparing the "visual training mode" of the Autoskill program to "a computerized version of a human presenting flash cards and holding them up." Appellant's App. at 358. NESS' generalized complaints are not supported by substantial evidence that the Autoskill oral reading test contained no original expression.

In sum, we are convinced that the expert testimony and the exhibits furnish a substantial basis for the trial judge's conclusion that there are protectable elements in the Autoskill program that survive the filtration process.

3. The Comparison

Finally, after conducting an analysis to filter out the nonprotectable material, the judge attempted to compare the remaining "core" of material, the copyrightable expression. See 3 Nimmer § 13.03[F], at 13-99. "Once a court has sifted out all elements of the allegedly infringed program which are 'ideas' or are [other unprotected material], there may remain a core of protectable expression." Altai, 982 F.2d at

710. The analysis at this point "poses essentially a value judgment, involving an assessment of the importance of the material that was copied." 3 Nimmer § 13.03[F], at 13-102; see Altai, 982 F.2d at 710.

NESS concedes "there are many similarities in the two programs," but contends that after filtration there is no protectable expression remaining to compare. Reply Brief of Appellant at 18. Having rejected NESS' arguments concerning the filtration step, we disagree. We think the judge, after his comparison analysis, had an adequate basis for observing "many significant similarities" in the protectable aspects of the Autoskill program and the allegedly infringing NESS program. 793 F. Supp. at 1569.[25]

The judge identified similarities in the three basic tests used in the programs. The judge concluded that in the oral reading tests in both programs, "a word or words come up on the screen and the student attempts to read "orally" and both programs "require a trainer to decide whether or not the word is read correctly and to record speed and accuracy into the computer." The judge concluded that in the auditory visual matching test, or audio identification test, in both programs "three word choices appear on the screen and an auditory stimulus of a target word or nonsense word is presented to the student. The student must select which word he hears and indicate his response by hitting the 1, 2

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[25] The judge considered expert testimony about the similarities between the programs, including an expert's views "as to what [the witness] believed legal conclusions should be in a number of areas based upon his review of legal materials and the programs at issue." 793 F. Supp. at 1568. The judge explained, however, that he "need not rely on such [legal] conclusions." Id. We feel that the judge properly viewed the legal conclusions as matters for the court to decide.

or 3 key." Id. In the visual match, or visual identification, test in both programs, the judge concluded, "the screen displays four words or nonsense words. The target word is isolated from the other words and the student is expected to choose one of the remaining three words which is identical to the target word." Id.

The judge noted that both programs use alternating words and nonsense words. The judge concluded that both programs record speed, or latency of response, and accuracy data and use the information in the same manner. Id. Further, the judge concluded that in both programs the students are trained according to the same three testing topics. In both programs, the judge noted, students receive immediate feedback about accuracy. The judge concluded that the criteria for a student's progressing to the next subprogram is similar in both programs. Further, the judge noted that in both programs: the presentation of skills proceeds hierarchically from the simple to the complex; a visual scanning test is administered in combination with the other tests to determine the student's subtype; matrices record student progress within each section; and graphs are used for the same purposes. Id.

To show lack of similarity of the Autoskill and NESS programs, a prime witness for NESS was Mr. Johnson-Laird. The trial judge noted his strong background in computer software but said he has no background in the area of reading education or its software. Id. at 1561. Johnson-Laird's testimony particularly sought to prove lack of similarity between the NESS and Autoskill programs. He presented charts showing differences in logic flow between the display screens of both programs.

We have examined the testimony of Mr. Johnson-Laird on these points, e.g., Appellant's App. at 317-328, and Ex. 10, photographs of the program screens, id. at 473-78, used in his testimony. He said the Autoskill screen does have elements, similar to that of NESS, that were arguably protectable, Appellant's App. at 397, identifying "the matrices here, when you take them as an entire entity." Id. at 398; see also id. at 400-401. He said, however, that there was not substantial similarity in the look and feel of the Autoskill and NESS screens, stressing the way NESS uses color. Id. at 401-03. He referred also to the fact that in the NESS program, one's voice could be recorded and played back, which was not done on the Autoskill program. Id. at 442.

The judge explained that he rejected NESS' suggestions of differences because the differences (color in NESS' program absent in Autoskill's, word choices appearing in phases in NESS' program while those on the Autoskill screen appear at the same time) were not important or substantial parts of Autoskill's program. The judge gave greater weight to Dr. Olson's testimony that the differences were not pedagogically significant. 793 F. Supp. at 1570-71. We are satisfied the judge's crediting of the Autoskill witness, testimony over that of NESS' witness was not clearly erroneous or an abuse of discretion.[26]

In sum, we affirm the judge's conclusion that Autoskill satisfied its burden on the substantial similarity requirement

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[26] During his testimony about the use of color in the screens and the difference he saw between them in this respect, Mr. Johnson-Laird said: ". . . . I don't necessarily mean in the pedagogical sense. I am not competent to talk about matters of teaching." Appellant's App. at 402; see also id. at 415, 416.

for purposes of the preliminary injunction. Having satisfied its burden at this stage on both elements required to show copying -- access and substantial similarity -- Autoskill thus demonstrated a substantial likelihood of success on the merits. Our ruling, of course, is for purposes of the preliminary injunction alone and does not represent a final determination on the substantial similarity issue.

B. Irreparable Harm

The district judge held that Autoskill had made the requisite showing of irreparable harm on two alternative grounds. First, the judge applied the rule a leading commentary describes as the prevailing one in the circuits: a showing of a prima facie case of copyright infringement or of a reasonable likelihood of success on the merits usually raises a presumption of irreparable harm for preliminary injunction purposes. 3 Nimmer § 14.06[A], at 14-78.13 to -78.14; 793 F. Supp. at 1572. We need not decide whether to adopt that test because of the second ground on which the trial judge found irreparable injury -- one that is independently sufficient.

In his second holding on irreparable injury, the judge cited testimony that from NESS' conduct, Autoskill "will suffer from a loss of uniqueness in the marketplace." 793 F. Supp. at 1572. The judge also noted testimony that if the NESS program produced poor results, "such results would affect Autoskill's reputation." Id. Further, the judge noted testimony that Autoskill "had no way of ascertaining how many customers were lost to NESS." Id. On the basis of this evidence, the judge held that Autoskill had demonstrated irreparable harm by presenting evidence that

the NESS program "jeopardizes Autoskill's investment and competitive position and thus shows irreparable harm." Id.

We are satisfied that the judge's conclusion that a danger of irreparable harm was shown was not in error.

C. Balance of Hardships

Autoskill was also required to demonstrate that the injury it would sustain if the injunction did not issue outweighed the potential harm that the injunction would cause to NESS. See Tri-State Generation & Transmission Ass'n. Inc. v. Shoshone River Power, Inc. 805 F.2d 351, 356-57 (10th Cir. 1986). The district judge observed that while NESS argued that the injunction would have a devastating impact on its business, it presented no evidence to support the contention. 793 F. Supp. at 1572. However, even assuming the injunction would have such a devastating effect on NESS, the judge adopted the reasoning of other courts that "a knowing infringer cannot be 'permitted to construct its business around its infringement.'" Id. (quoting Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1255 (3d Cir. 1983)). Thus the judge made a primarily legal ruling on the factor.

Autoskill's burden on this factor was to demonstrate that the harm it would sustain without an injunction outweighed the potential harm of an injunction to NESS. Autoskill presented evidence that it would sustain at least some harm; under the usual application of the balancing test, the judge did not make it clear how this potential harm to Autoskill outweighed the harm it assumed NESS would sustain. Instead, the judge recognized that in the copyright

context the four factors require sensitive weighing. Stated another way, the district judge adopted the view that the potential injury to an allegedly infringing party caused by an injunction "merits little equitable consideration and is insufficient to outweigh the continued wrongful infringement." Georgia Television Co. v. TV News Clips of Atlanta, Inc., 718 F. Supp. 939, 949 (N.D. Ga. 1989). We agree that placing too much weight on this factor would reward infringers. Under the law that the judge applied to the factor, which we rule was correct, Autoskill made a persuasive showing that the balance of the harms weighed in its favor.

D. The Public Interest

On the final factor, Autoskill was required to demonstrate that the issuance of the injunction was not adverse to the public interest. See Tri-State Generation & Transmission Ass'n., Inc., 805 F.2d at 357. The district court implicitly addressed this factor by acknowledging that by granting an injunction it would uphold the rights of the copyright holder. 793 F. Supp. at 1572. In copyright cases, we think this factor normally weighs in favor of the issuance of an injunction because the public interest is the interest in upholding copyright protections. See 3 Nimmer § 14.06[A], at 14-80. The issuance of the injunction clearly was not adverse to the public interest.

IV. CONCLUSION

In sum, in his filtration analysis the district judge denied copyright protection to two aspects of the Autoskill

program, the 13 categories, or skill levels, based on different combinations of vowels and consonants, as well as the "silent sentence" and "silent paragraph" components. 793 F. Supp. at 1568. Further, for the reasons already given, the judge gave preliminary injunctive relief against infringement, due to the likelihood of success which was shown, as to the essential aspects of the Autoskill program, including: the oral reading test; the auditory visual matching test; the visual match test; the visual scanning test; alternating words and nonsense words; utilization of speed and accuracy data; use of speed and accuracy criteria; and hierarchical presentation of skills. Id. at 1569.

We hold that we have appellate jurisdiction and the motion to dismiss the appeal is **DENIED.** We hold that the district judge's findings were not clearly erroneous, his grant of the preliminary injunction was not an abuse of discretion, and the injunctive order is **AFFIRMED**. The case is **REMANDED** for further proceedings.

APPENDIX B

FINDINGS OF FACT AND CONCLUSIONS OF LAW OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF NEW MEXICO

Filed April 21, 1992

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO
No. 91-960-M Civil
CV 91-0740M

AUTOSKILLS, INC., a Canadian corporation,
Plaintiff,

v.

NATIONAL EDUCATIONAL SUPPORT SYSTEMS INCORPORATED, a New Mexico corporation,
Defendant.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

This matter came on for consideration on the motion of Autoskill Inc. (Autoskill) for a preliminary injunction against National Educational Support Systems, Inc. (NESS) based upon copyright infringement and misappropriation of trade secrets. A hearing was held on this matter from December 12-17, 1991. Prior to this hearing, NESS filed suit in this court for declaratory judgment in case No. Civ. 91-740-M that its computer reading software program did not infringe upon Autoskill's reading software system and for other

relief. A hearing was held on that matter in August, 1991. These cases have been consolidated. My Findings of Fact and Conclusions of Law relating to Autoskill's motion for preliminary injunction pursuant to Fed.R.Civ.P. 52 follow.

Findings of Fact

Jurisdictional Facts

1. Autoskill is a Canadian Corporation, with its principal place of business in Ottawa, Canada, which sells software used in the teaching of reading.

2. NESS is a New Mexico Corporation with its principal place of business in Albuquerque, New Mexico which also sells software used in the teaching of reading.

3. The matter in controversy exceeds $50,000 exclusive of interest and costs, and is between a citizen of a State of the United States and a citizen of Canada.

4. This matter concerns claims of copyright infringement and trade secret appropriation.

Autoskill's Claims

5. As a Canadian national, Autoskill is entitled to claim copyright protection because the protected work was first published in 1985 at which time Canada was a party to the Universal Copyright Convention. 17 U.S.C. § 104 (b)(2) (The court takes judicial notice of the historical note accompanying this section.)

6. Autoskill claims that the NESSI Program copied substantially from the Autoskill Program with regard to its sequence, structure and organization; and also with regard to the "total concept and feel" of the Autoskill Program.

7. Autoskill makes no claim that NESS copied its source code. Autoskill therefore claims NESS violated 17 U.S.C. § 106 and other provisions of the Copyright Act.

8. Autoskill prays for preliminary and permanent injunctions pursuant to 17 U.S.C. § 502(a) to restrain what it believes to be further infringement. Autoskill requests impoundment of the NESSI Program during the pendency of the action as allowed under 17 U.S.C. § 503(a). Autoskill also asks for destruction of the NESSI Program, damages and attorneys fees.

9. Autoskill also claims NESS misappropriated its trade secrets and asks for a preliminary injunction restraining NESS' use of trade secrets.

Background Facts

10. Autoskill sells computer software used for testing, diagnosis and training in the area of reading (the Autoskill Program). NESS also sells computer software used in testing, diagnosis and training in the area of reading (the NESSI Program).

11. The Autoskill reading program was authored and developed by Dr. Ronald Trites (Trites) and Dr. Christina Fiedorowicz (Fiedorowicz). Edfour Education Consultants did the original computer programming for the Autoskill reading program.

12. Autoskill obtained a certificate of registration for its copyright of the Autoskill Component Reading Sub-skills Testing and Training Program numbered TX 1 742 632 effective January 27, 1986. In the section for indicating the nature of authorship the applicant stated "(h)irer of entire work comprising program and including manual."

13. No evidence exists showing that Autoskill knowingly misled the Copyright Office.

Access to the Autoskill Program

14. NESS had access to the Autoskill Program. In 1989, NESS was formed by Ron Neil (Neil) and Byron Manning (Manning). Ron Neil had been employed as salesperson for UNISYS and in that capacity he sold ICON computers with Autoskill software from March or April of 1986 until April 27, 1990. Neil admitted that he and Manning were thoroughly familiar with the Autoskill Program.

15. Negotiations for the purpose of obtaining a license to distribute Autoskill software took place between NESS and Autoskill from about June until November of 1989.

16. While license negotiations were going on with Autoskill, Neil began discussions with Lynn Beckwith (Beckwith) president of a software programming firm Automation Consultants Inc. (ACI) for the purpose of developing a reading software program for NESS. Programming of the NESS reading program began in January 1990 by ACI and Beckwith supervised the work.

17. ACI did the programming for the Ness software.

18. NESS specified the substantive and pedantic content of the NESSI Program to ACI.

19. Mr. Beckwith supervised the NESSI programming.

20. Mr. Beckwith had written on notes of initial conversations with Neil that the Ness software was "to be like AUTOSKILL" and was to be an "AUTOSKILL REPLACEMENT." These notes contained Beckwith's initial understanding of Neil's wishes concerning the NESSI Program.

21. Beckwith had indicated in October 1989 in his notes that "AUTOSKILL PAPERS ARE EXCELLENT" and he testified that prior to that time he had received documents concerning Autoskill's product and techniques.

22. Prior to programming the NESSI Program Beckwith reviewed a document which describes the Autoskill Program in detail.

23. Neil had demonstrated the Autoskill software to Beckwith prior to 1989.

Description of the Autoskill Program

24. The following description of the reading program is the "core" of the Autoskill Program which has been a part of the program since it was first used.

25. The Autoskill Program is a reading program that is based primarily upon the identification of three reading sub-types of students who are experiencing reading difficulties.

26. The three specific sub-types of reading deficits which were used in the Autoskill Program are the Type 0, Type A, and Type S. Type 0 is the oral reading sub-type. Type A is the intermodal-associative deficit sub-type and Type S is the sequential deficit sub-type.

27. These sub-types were originally described in an article by Doerhing and Hoshko and a major book by Doerhing, Trites, Patel and Fiedorowicz.

28. The rationale behind the Autoskill Program is to improve the rapid automatic responses of the student to the training stimuli which are broken down in a particular way to train students who belong to the different sub-types.

29. Students are first tested in order to determine their sub-type. The tests are for oral reading, audio-visual matching, visual matching and visual scanning. The tests

are presented in the above sequence. All the tests are administered with the aid of the computer with the exception of the visual scanning test which is a paper and pencil test.

30. The tests are presented according to thirteen different categories of word form types based upon different combinations of consonants and vowels and ranging from single letters to four letters. Words and non-words are used. Accuracy and speed of response are tested and recorded.

31. This baseline testing automatically results in a profile graph of student strengths and weaknesses. From these results the sub-type is determined by reference to specific criteria.

32. From the determination of student sub-types, a corresponding training program is assigned.

33. Training proceeds hierarchically from the simplest skills to the most complex. The training modules are the same three categories used for testing with the exception of the visual scanning. Sub-programs within each module are based upon thirteen categories of word form types. The oral reading module progresses from words to phrases to sentences to paragraphs and grade level is indicated.

34. In training, after each try, the student receives immediate feedback as to whether he is correct or incorrect. The computer records the speed of response.

35. In order to move on to the next sub-program the student must meet certain criteria for speed and accuracy. He must get 95% correct over three consecutive fifty trial blocks with speed no slower than 100 milliseconds.

36. Following each training block, students are presented with graphs which show the results in terms of accuracy and speed.

37. The Autoskill Program contains information and cannot be considered a blank form.

Facts Relating to Merger

38. There is no evidence that the idea of testing, diagnosing and training the particular sub-types could be expressed in only one way.

39. The idea of testing, diagnosing and training the particular sub-types is capable of being expressed in more than one way.

40. The thirteen different categories or skill levels, based upon different combinations of vowels and consonants, which both programs utilize are dictated by the letter/sound relationships of the English language. Therefore, this aspect of the Autoskill Program is merged with the idea.

41. The "Silent Sentence" and "Silent Paragraph" components of the Autoskill Program are so standard in the teaching of reading that they cannot be afforded protection.

Common Aspects of Both Programs

42. Autoskill contains the following tests: oral reading, auditory visual match, visual match and visual scanning. The NESSI Program contains the following tests: reading aloud, audio identification, visual identification and visual scanning. Although the tests for each program have different names, they employ the same techniques and are substantially the same.

43. The three main sections to each of the programs are testing or diagnosis, profile analysis and training.

44. Students progress from the simplest sub-skills to the most complex.

45. The students in both programs are trained according to the same first three topics for which they were tested and they are trained in substantially the same way.

46. Students in training receive immediate feedback for accuracy.

47. When students attain similar criteria in training, they move on to the next sub-program.

48. Both programs present profiles of speed and accuracy in similar ways.

49. Graphs are used for the same purposes in both programs and in substantially the same ways for both programs.

50. The NESSI Program is substantially similar to the important aspects of the Autoskill Program.

Other Circumstantial Evidence of Copying

51. There were some minor changes in format which had no pedagogical value.

52. NESS changed the names of the tests and the sequence of the tests.

Uniqueness

53. Both Dr. Olson and Dr. Moya testified that there were many unique aspects of the Autoskill Program.

54. I find that the testimony of Dr. Norton as to the lack of uniqueness of the Autoskill Program is less convincing than that of Dr. Olson and Dr. Moya.

Witnesses

55. Dr. Olson has a strong background in both reading education and the use of software in reading education. Dr. Olson is qualified to testify as an expert in this area. Dr. Olson was retained by Autoskill to review the

reading programs before Autoskill had decided to sue NESS. Prior to testifying in this case, Dr. Olson reviewed cases and the Nimmer treatise on copyright infringement. Dr. Olson considered the programs as a whole to reach his conclusions regarding substantial similarity.

56. Mr. Johnson-Laird has a strong background in the area of computer software but has no background in the area of reading education or reading education software. In this case, Mr. Johnson-Laird is only qualified to testify as an expert in the area of computer software. Mr. Johnson-Laird is not qualified to testify as to the pedagogical differences in the "look and feel" of the programs. Mr. Johnson-Laird was retained after NESS was sued by Autoskill. Prior to testifying in this case Mr. Johnson-Laird did not review any legal materials on copyright law.

57. Mr. Johnson-Laird found no errors in statements of fact made by Dr. Olson concerning features of both programs.

58. Dr. Norton has a strong background in the teaching of reading as well as in the utilization of computer programs to teach reading. Dr. Norton is qualified to testify as an expert in this area.

59. Dr. Olson spent a significantly longer amount of time operating the programs than did Dr. Norton.

60. Dr. Moya was a rebuttal witness called by Autoskill. He holds a Phd. in education. He was chairman of a bid specification committee for the San Benedito Independent School District. He was also the acting director of technology for the school district.

61. From early 1990 until the summer of 1991, Dr. Moya and the committee members reviewed at least six of the various reading education software products.

62. Based upon the review of several products, the committee recommended the purchase of the Autoskill Program.

63. Dr. Moya operated each program for approximately three to four hours.

64. Dr. Fiedorowicz holds a Phd. in neuropsychology and has done research in the area of reading disabilities. She is competent to testify about reading deficiencies.

65. Mr. Ernest James Foster stabilized the "core" or engine part of the Autoskill Program.

Laches

66. Trites was not able to obtain a workable copy of the Ness software until June or July of 1991.

67. It took time for Autoskill to locate an independent expert such as Dr. Olson to analyze both programs.

Neil's Efforts to Discourage Foster from Testifying

68. Neil attempted to discourage Foster from testifying in the preliminary injunction hearing.

69. Neil would have reason to believe that Foster's testimony would be favorable to Autoskill.

70. Neil misrepresented the facts concerning the hearing to Foster. Neil admitted stating that nothing would be resolved from this hearing. Foster testified that Neil stated that even Autoskill's attorney did not believe Autoskill stood a chance to succeed in this case. Neil had admitted in an earlier hearing as to the inaccuracy of that statement being attributed to Autoskill's previous attorney, Mr. James Snead.

Conclusions of Law

Subject matter jurisdiction exists pursuant to 28 U.S.C. 1338 (a) which grants federal courts original and exclusive jurisdiction over copyright infringement claims. Diversity jurisdiction also exists under 28 U.S.C. § 1332(a). Venue is proper under 28 U.S.C. § 1400(a).

Section 502(a) of the Copyright Act allows this court to issue a preliminary injunction to restrain infringement of copyright. The prerequisites for prevailing on a motion for preliminary injunction are set forth by the Tenth Circuit Court of Appeals in United States ex rel. Citizen Band Potawatomi Indian Tribe v. Enterprise Management Consultants, Inc., 883 F.2d 886 (10th Cir. 1989). First, there must exist a substantial likelihood that the movant will eventually prevail on the merits. Second, the movant must show that he will suffer irreparable harm unless the injunction issues. Next, there must be proof that the threatened injury to the movant outweighs the damage the proposed relief may cause the opposing party. Last, there must be a showing that if the injunction were issued it would not be adverse to the public interest. Id. at 889.

I. Likelihood of Success on the Merits

The issue on this motion for preliminary injunction is whether the evidence presented on this motion convinces me that the plaintiff is likely to prevail at trial. MELVILLE B. NIMMER & DAVID NIMMER, 3 NIMMER ON COPYRIGHT, 14-81-82 (1991 ed.). The issue is not whether infringement has been established as a matter of law. Id. The Copyright Act provides that "anyone who violates any

of the exclusive rights of the copyright owner as provided by sections 106 through 118 ... is an infringer of the copyright." 17 U.S.C. § 501 (a).

Under § 106, the owner of the copyrighted work has the exclusive right (1) to reproduce the copyrighted work in copies and (2) to prepare derivative works based upon the copyrighted work. 17 U.S.C. § 106 (1), (2).

A "computer program" which is "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result" is a copyrightable work. 17 U.S.C. § 101; H.R.Rep. No. 1476, 94th Cong., 2d Sess. 54, reprinted in [1976] 5 U.S.C.C.A.N. 5659, 5667. The "source code" is a set of instructions to the computer. Johnson Controls, Inc. v. Phoenix Control Systems, 886 F.2d 1173 (9th Cir. 1989). The scope of copyright protection is not limited to the source code. Manufacturers Technologies Inc. v. Cams Inc., 706 F.Supp. 984, 1000-1002 (D.Conn. 1989).

A. Validity of Autoskill's Copyright

In order to establish copyright infringement, Autoskill must show both ownership of a valid copyright and copying by NESS. See Atari Inc. v. North American Phillips Consumer Electronics Corp., 672 F.2d 607, 614 (7th Cir. 1982), cert. den. 459 U.S. 880 (1982). In its post-hearing brief, NESS disputes the validity of Autoskill's copyright.

NESS first attacks the validity of the copyright because the copyright application stated that the contributions of all authors were "works for hire." This attack is without merit. First, Autoskill's registration of copyright is prima facie

evidence of ownership. Phoenix Control, 886 F.2d at 1175. Without citation to authority, NESS argues that in order for Autoskill to claim that the original version of Autoskill CRS was a "work for hire," only Autoskill employees were allowed to contribute to the program. Also without citation to authority, NESS states that "[i]ndependent contractors who contribute to the authorship of a computer program have to be separately listed on the copyright application form, as contributions by an independent contractor to a computer program fall outside the statutory definition of 'work for hire.'" NESS' Post-hearing brief at p.6.

Under § 101 of the 1976 Copyright Act, a "work made for hire" is: "(1) a work prepared by an employee within the scope of his or her employment; or (2) a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work, as a compilation, as an instructional text, as a test, as answer material for a test ... if the parties expressly agree in a written instrument signed by them that the work shall be considered a work made for hire . . . ." Autoskill's copyright was obtained in 1986. At that time, this language was construed as not requiring the employee performing the work that is the subject of the copyright to be a formal or regular employee. Aldon Accessories Ltd. v. Spiegel, Inc., 738 F.2d 548, 552 (2d Cir. 1984); see also 1 NIMMER at 5-14 & 5-15. Because in 1986 Autoskill could not have anticipated that the case law would subsequently change the interpretation of the statute to require that a hiring party show employment in the regular course of business, see Community for Creative Non-Violence v. Reid, 109 S. Ct.

2166 (1989), such an interpretation cannot be retroactively applied to invalidate Autoskill's copyright.

NESS also argues that Autoskill's failure to list Edfour as an author misled the Copyright Office and if done knowingly may constitute grounds for cancellation of the registration. At the hearing, NESS presented no evidence that Autoskill knowing misled the Copyright Office. Second, Autoskill listed Edfour on the application where information regarding "the names of manufacturers who performed certain processes" is requested. Also, NESS' reliance upon Frank C. Brooks, Jr. v. Williams E. Bates and Knowledge Engineering, Inc., 1991 LEXIS 17193, ___ F.Supp.___ (S.D.N.Y. 1991) is misplaced. That case involved the question of transfer of a copyright in which there was no writing evidencing a transfer required under § 204(a). Furthermore, as Autoskill correctly points out, § 201(b) states that "(i)n the case of a work made for hire, the employer or other person for whom the work was prepared is considered the author for purposes of this title, and, unless the parties have expressly agreed otherwise in a written instrument signed by them, owns all of the rights comprised in the copyright."

Last, NESS argues again without citation to authority that "it is established practice in the computer software industry to file for a new copyright registration in a computer program at such time as significant improvements or additions are made to the underlying work." NESS' Post-hearing Brief at 7. Autoskill did not register subsequent improvements or changes in its program only until quite recently when it registered Autoskill Version 4. Because Autoskill claims protection for the core of the program which existed in every version of the work since its

inception, the issue of non-registration of subsequent Autoskill works is not dispositive. For all the above reasons, NESS has failed to present argument or evidence sufficient to rebut the Autoskill's prima facie showing of the validity its copyright.

B. Circumstantial Evidence of Copyright Infringement--Access and Substantial Similarity

Direct evidence of copying is rarely available. Baxter v. MCA, Inc., 812 F.2d 421, 423 (9th Cir. 1987). For this reason, copying may be inferred by resorting to a two pronged test involving circumstantial evidence of: (1) the defendant's access to the copyrighted work and (2) the substantial similarity of defendant's work to the copyrighted work. Atari, 672 F.2d at 614. To succeed, plaintiff must prove both prongs. Sid & Marty Krofft Television Productions, Inc. v. McDonald's Corp., 562 F.2d 1157, 1172 (9th Cir. 1977). See also Micro Consulting, Inc. v. Pedro Zubeldia and Medical Electronic Data Exchange, Inc., Civ. 88-1348 W at p.31 (W.D.Okla. 1990).

In this case, there is no question that NESS had access to the Autoskill Program. Because Autoskill makes no claim of infringement of the source code, it is not necessary for Autoskill to show that Neil or Manning had access to the source code. The tough question here is whether the NESSI Program was substantially similar to the Autoskill Program. "[T]he determination of the extent of similarity which will constitute a substantial and hence infringing similarity presents one of the most difficult questions in copyright law ...." 3 NIMMER at 13-23.

1. Idea v. Expression

To make a determination of substantial similarity, we must first recognize that the primary objective of copyright is "[t]o promote the Progress of Science and useful Arts" Art.I § 8 cl.8, not to reward the labor of authors. Feist Publications, Inc. v. Rural Tel. Service Co., 111 S.Ct. 1282, 1291 (1991). For this reason, "copyright assures authors the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work." Id. at 1290. Thus, it is a basic rule under copyright law that protection may extend to expression but never to ideas. Baker v. Selden, 101 U.S. 99 (1880). This rule stating the idea/expression dichotomy is codified in the Copyright Act at § 102(b). See Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240 (3rd. Cir.1983). Section 102(b) provides that: "[i]n no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work."

NESS argues that as a functional work the Autoskill Program should not be protected under copyright law because § 102(b) excludes from protection processes, procedures, systems, and methods of operation. More is required, however, than a literal application of the language of the statute. Toro Co. v. R. & R. Products Co., 787 F.2d 1208, 1212 (8th Cir. 1986). Congress did not intend to enlarge or contract the scope of copyright protection by this language. H.R. REP. No. 94-1476, p.57 (1976). Its purpose was to restate the law of copyrights leaving "the basic

dichotomy between expression and idea" unchanged. Id. Therefore, I must go beyond a literal application of the statutory wording and examine the Autoskill Program in light of the case law dealing with the idea/expression dichotomy.

The Supreme Court discussed this dichotomy in Selden. Selden, 101 U.S. 99. In that case, the plaintiff, Selden, sought copyright protection for a utilitarian work which explained a system of bookkeeping. The work included bookkeeping forms which were to be used together with the system. The defendant, Baker, had published a book based upon a similar bookkeeping system which contained forms with different columns and headings. The Court held that the art explained in the book could not be protected under copyright law; and if the art could not be used without the methods and diagrams used in the book, those could not be protected either. Id. at 103. The term "art" has been used to mean the "idea" of the work. 1 NIMMER at 2-199. Thus, if the methods and diagrams were necessary to the work in that the idea could not be expressed without those methods, the methods were not protectible.

The Court went on to say that "[t]he description of the art in a book, though entitled to the benefit of copyright, lays no foundation for an exclusive claim to the art itself. The object of the one is explanation; the object of the other is use. The former may be secured by copyright. The latter can only be secured, if it can be secured at all, by letters patent." Id. at 105. NESS appears to rely upon this quote to support its argument that copyright excludes functional works.

The Third Circuit Court of Appeals rejected this expansive interpretation of Selden. Franklin, 714 F.2d at

1251. In that case the appellee argued that operating systems of a computer could not be copyrighted because they were "purely utilitarian works." Id. The Franklin Court also explained that such an interpretation was later rejected in Mazer v. Stein, 347 U.S. 201 (1954). In that case, the Supreme Court stated: "[w]e find nothing in the copyright statute to support the argument that the intended use or use in industry of an article eligible for copyright bars or invalidates its registration. We do not read such a limitation into the copyright law." Id. at 218, quoted in Franklin, 714 F.2d at 1252. The court in Franklin thus held that copyright protection could not be withheld from computer operating systems. Therefore, I reject NESS' argument for the same reasoning.

NESS also argues that the facts and arguments in Selden are almost identical to those in this case. In that case, Selden wanted protection for his ledger forms which were similar to Baker's in text and arrangement of headings and columns. NESS compares this with Autoskill's claim for protection for the structure, sequence and organization of its program. It is certainly true that courts following Selden have held that blank forms are not copyrightable and that the Copyright Office Regulations have adopted this rule. Brown Instrument Co. v. Warner, 161 F.2d 910 (D.C. Cir. 1947); 37 C.F.R. Sec. 202.1(c)(1959). That, however, is not the case here, where the organization of Autoskill's Program cannot be construed as a blank form. See Digital v. Softklone, 659 F.Supp. 449 (N.D. Ga. 1987) (where the court held that if a work provides information to a user beyond indicating where to record data, the work is copyrightable). Furthermore, to withhold protection to the Autoskill Program merely because protection was not afforded the

accounting forms does not take into account the essential holding of that case which is that when ideas cannot be used without employing certain methods and diagrams, those methods and diagrams cannot be protected. Selden, 101 U.S. at 103.

The gist of NESS' argument, however, is the legitimate question of whether Autoskill attempts by this action to obtain protection for its idea of a computer program which improves a student's reading and verbal language skills. Such a question recognizes the principle of Selden that ideas are not to be protected. Further, although expression may be protected, such protection cannot be afforded when the effect is to grant a monopoly over a particular expression which would stop or hinder others from ever articulating the idea. See 1 NIMMER 2-204. These issues will be discussed below.

2. The Filtering Approach

A basic approach for analyzing the substantial similarity question regarding computer software has been proposed by Professor Nimmer. 3 NIMMER § 13.13 [F]. This is the filtering method by which infringement may be established through analyzing the substantial similarity of the protectible expression rather that the work as a whole. Narell v. Freeman, 872 F.2d 907, 910 (9th Cir. 1989). Therefore, before determining the question of substantial similarity it is necessary to eliminate all nonprotectible elements from consideration. 3 NIMMER § 13.13[F]. The utility of this approach lies in its practical application to computer programs. Id.

In order to proceed with this analysis, then, I will first determine what aspects of the copyrighted program are not protectible. These are unprotected expression, ideas and expression merged with ideas. See e.g. Softklone, 659 F.Supp. 449 (D. 19); Lotus Dev. Corp. v. Paperback Software Int'l., 740 F.Supp. 37 (D.Mass. 1990). Unprotected expression is that expression which by its very nature cannot be monopolized. For example, there can be no protection for facts. Feist, 111 S.Ct at 1295.

a. Autoskill Program--Idea v. Expression

Determining what is idea and distinguishing it from expression is a more difficult question. "Obviously, no principle can be stated as to when an imitator has gone beyond copying the 'idea', and has borrowed its 'expression.' Decisions must therefore inevitably be ad hoc." Peter Pan Fabrics, Inc. v. Martin Weiner Corp., 274 F.2d 487, 489 (2nd Cir. 1960). "The task is even more daunting in the field of computer software." Zubeldia at 22. Furthermore, the 10th Circuit Court of Appeals has not yet addressed this issue.

The Third Circuit Court of Appeals dealt with this question as related to computer software in Whelan Associates, Inc, v. Jaslow Dental Laboratory, 797 F.2d 1222 (3rd.Cir. 1986). There the court held that the purpose of a utilitarian work was its idea and everything else that was not necessary to the purpose of the work or its functioning was expression. Id., at 1236. Autoskill urges me to accept the Whelan court's reasoning, however I decline to do so. The Whelan court's approach although, a temptingly

simplistic and bright line test, cannot account for the reality that many ideas may exist in a given work. See Computer Assoc. Int'l., Inc. v. Altai, Inc., 775 F.Supp. 544 (E.D.N.Y. 1991). Adopting the Whelan rule would also put a damper upon the important goal of encouraging others to build upon the ideas conveyed in a work. See Feist 111 S.Ct. at 1290.

A better approach for determining what is idea as opposed to expression is known as the abstractions test articulated by Judge Learned Hand in Nichols v. Universal Pictures Corporation, 45 F.2d 119 (2nd Cir. 1930), cert. den., 282 U.S. 902 (1931):

> [u]pon any work, and especially upon a play, a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. The last may perhaps be no more than the most general statement of what the play is about, and at times might consist of only its title; but there is a point in this series of abstractions where they are no longer protected, since otherwise the playwright could prevent the use of his 'ideas,' to which, apart from their expression, his property is never extended.

Id. at 121.

Although the abstractions approach is not really a test, its usefulness lies in analyzing works containing recurring patterns which can be defined in general themes. Atari, 672 F.2d at 616 (7th Cir. 1982).

In order to utilize the approach, patterns or components of the program must be placed on a continuum from the

most general to the most specific and identify some formulation or definition of the idea. Lotus Dev. Corp. v. Paperback Software, Int'l., 740 F.Supp. at 60. Next, the line must be drawn separating ideas from expression. The line drawn must be a pragmatic one and the court must keep in consideration "the preservation of the balance between competition and protection reflected in the patent and copyright laws." Franklin, 714 F.2d at 1253, quoting Herbert Rosenthal Jewelry Corp. v. Kalpakian, 446 F.2d 738, 742 (9th Cir. 1971).

In this case, at the highest and most general level of abstraction, the Autoskill Program is a reading program designed to diagnose, re-mediate and teach reading skills through the use of the computer. More specifically, this is accomplished by testing or diagnosis, profile analysis and training of certain sub-types. The Autoskill Program specifically deals with the testing or diagnosing and training of three distinct sub-types--Type 0, Type A and Type S. Because these particular sub-types are identified and discussed in the literature available to the public, Autoskill is not entitled to protection from their use by others with testing or, diagnosing, profiling and training. The identification of those sub-types by researchers would be of little value, if such theories were not allowed practical application to real students. Thus, to allow such protection would grant Autoskill a virtual monopoly over those concepts and serve to thwart efforts of others to build upon them. See Feist, 111 S.Ct. at 1290.

The manner in which Autoskill utilizes those ideas and communicates them to students and teachers in the context of its reading program amounts to expression. Such expression can extend to the organization, structure and

sequence if they are original. See Feist, 111 S.Ct at 1289 where the Supreme Court stated that selection and arrangement of facts are eligible for protection if the arrangement and selection is original); see also Whelan, 797 F.2d at 1248.

b. Autoskill--Protectible v. Non-protectible Expression

I now turn to the question of whether such expression is protectible. A few basic principles have emerged that offer guidance for determining which are the protectible elements of a copyrighted work and which are not. As previously explained, the Supreme Court in Selden explained that where an idea cannot be used without employing the methods which are necessary incidents to the idea, those methods cannot be protected. Selden, 101 U.S. at 103. This is essentially the rule that idea and expression "merge" where an idea has only one necessary form of expression. Where idea and expression are inseparable protection is not, therefore, extended to the expression. See also Herbert Rosenthal Jewelry Corp. v. Kelpakian, 446 F.2d 738 (9th Cir. 1971) (where the idea of a bee pin was indistinguishable from its expression and the court withheld protection).

Accordingly, courts have asked whether an idea is capable of various modes of expression. Franklin, 714 F.2d at 1253. To make this determination in the context of computer programs, courts have looked for evidence of other programs in the marketplace which perform the same functions as the copyrighted work without employing the same methodology. Healthcare Affiliated Services Inc. v.

Lippany, 701 F.Supp. 1142, 1151 (W.D.Pa. 1988). Therefore, "[i]f a particular expression is one of a quite limited number of possible ways of expressing an idea, then, . . . the expression is not copyrightable." Lotus, 740 F.Supp. at 59 (D.Mass. 1990).

I begin this examination of the merger question by reiterating the conclusion stated above that the testing, diagnosing and training of the particular sub-types used by Autoskill is an un-protectible idea. The pertinent question then is whether any aspects of expression in the Autoskill Program are merged with that particular idea. Furthermore, the issue of merger is more properly considered in a concrete factual setting as a defense against extending protection rather than as bar to copyrightability. 2 NIMMER 2-204 n.36.2.

Is this idea capable of various modes of expression? NESS has presented no evidence by way of defense that this idea can be expressed in only one way or even in a limited number of ways. See Softklone, 659 F.Supp. at 460 (where the court considered the fact that the defendants never contended that an idea could not have been expressed in a variety of ways to conclude that the idea and expression had not merged). Autoskill's witness, Dr. Olson, has presented testimony that only the Autoskill and NESS Programs use the particular three sub-types for testing, diagnosis and training. In itself, such testimony does not necessarily mean that there are no other ways of expressing the idea.

What is critical, however, is that Dr. Olson testified that there exist many different approaches to diagnosing sub-types. He also stated that Autoskill's particular version of diagnosis differed from that done by the researcher,

Doehring although it was related to it. Dr. Olson also testified that there are numerous ways to present profile data on student performance. Autoskill has also presented evidence of varying ways to test and train. **Exhibit N** presented by Dr. Fiedorowicz states that there are varying ways of presenting material. Autoskill has utilized the bottom-up approach that progression is from the lowest sub-skill of letter identification to the more complex levels. However, some researchers advocate the top-down theory.

Next, although Autoskill used three choices in the multiple choice portions of the testing and training programs, the nature of multiple choice tests does not require the use of three choices. Dr. Norton agreed that the number of choices could be two, three, four or five. Further, the Autoskill Program uses the training to deficit approach, while some researchers espouse the training to strength approach. Thus, I conclude that the idea of testing, profiling, diagnosing and training of the specific sub-types utilized in the Autoskill Program is capable of different modes of expression.

In considering merger, courts also ask whether the expression is dictated by the nature of the idea. Plains Cotton Co-op v. Goodpasture Computer Serv., 807 F.2d 1256, 1262 (5th Cir. 1987) (where the externalities of the cotton market dictated aspects of a computer program and the court did not afford protection to the copyrighted work). Thus, where there are necessary constraints inherent to an idea which limit its expression, ideas and expression coincide and the expression is not protectible. Data East U.S.A., Inc., v. Epyx, Inc., 862 F.2d 204, 209 (9th Cir. 1988) (where certain elements of a computer program were

dictated by the essentials of a karate match, the court held that ideas and expression coincided).

Thirteen of the same categories or skill levels based upon different combinations of vowels and consonants were presented to students in both the Autoskill and NESSI Programs. Dr. Norton testified that the English language contains patterns of letter/sound relationships which frequently appear. She testified that she could not find any other listing of patterns that would be simpler or more frequently used than those thirteen categories or levels. In light of this testimony, I conclude that the use of those thirteen categories is an aspect of expression which is dictated by teaching reading in the context of the English language. Thus, this aspect of the Autoskill Program is merged to the idea of testing and training students letter/sound relationships in the English language. Therefore, the thirteen categories of the Autoskill Program must be filtered out of the analysis.

A related rule is that protection cannot be granted for scenes a faire which are elements standard to a given topic. Atari, Inc., 672 F.2d at 616 & 617 (where the court found that a maze and scoring table were standard game devices). Dr. Olson testified that the "Silent Sentence" and "Silent Paragraph" components of the Autoskills Program employ techniques commonly used in reading programs. I find that both of these aspects of the Autoskill Program are so standard to the field that they cannot be afforded protection and therefore must be filtered out of the analysis. See 3 NIMMER at 13.03 [F].

To summarize, copyright protection cannot be afforded Autoskill for the idea of testing, diagnosing and training Sub-types 0, A and S. The particular way in which Autoskill

expresses that idea is protectible with the following exceptions. The thirteen categories of vowel and consonant combinations used in the reading programs is dictated by the use of the English language that it is merged to the idea of the reading program and must be filtered out of this analysis. Silent sentences and silent paragraphs are such standard devices in reading programs that they cannot be considered in analyzing substantial similarity. The question I will now address is whether what remains of the Autoskill Program has been substantially infringed by the NESSI Program.

3. Substantial Similarity

a. Is There Substantial Similarity Between the Two Programs?

The focus of this analysis is not whether there is literal similarity between the works but whether the "fundamental essence or structure of one work is duplicated in another . . ." Whelan, 797 F.2d at 1234 n.26 quoting 3 NIMMER at 13-25. In order to make this determination, it is proper for to evaluate and rely upon expert testimony. E.F. Johnson Co. v. Uniden Corp. of America, 623 F.Supp. 1485, 1493 (D.C.Minn. 1985). Such reliance is particularly appropriate in the complex area of reading software programs. Dr. Olson gave various opinions as to what he believed legal conclusions should be in a number of areas based upon his review of legal materials and the programs at issue. Although such opinions may be of help, I need not rely upon such conclusions. Cf. Franklin, 714 F.2d at 1250 n.8. I have relied particularly upon the testimony of Dr. Olson as

to the similarities between the programs and the importance of those similarities for teaching reading. I have also relied upon the testimony of Dr. Olson as to the uniqueness of the Autoskill Program.

"Infringement may be found where the similarity relates to matter which constitutes a substantial portion of plaintiffs' work --i.e., matter which is of value to plaintiffs." Atari, 672 F.2d at 619. Dr. Olson testified that the "guts" or key elements of both programs are the testing and training components of the particular sub-types. Dr. Olson testified that these areas are the most important pedagogically for developing basic skills. The types of tests for identifying sub-types are reading aloud or oral reading, visual matching or visual identification, auditory-visual match or auditory identification. Dr. Olson testified that no other computer software reading program that he knew of employed the particular methods to test and train the specific sub-types used. These similarities are described below.

As for testing, with the oral reading or reading aloud test, in both programs a word or words come up on the screen and the student attempts to read it orally. Both programs require a trainer to decide whether or not the word is read correctly and to record speed and accuracy into the computer. Second, in the auditory visual matching test or audio identification test, in both programs three word choices appear on the screen and an auditory stimulus of a target word or nonsense word is presented to the student. The student must select which word he hears and indicate his response by hitting the 1, 2 or 3 key. Dr. Olson stated that this keying method is not standard but is present in other programs. Third, in the visual match test or visual identification test, the screen displays four words or

nonsense words. The target word is isolated from the other words and the student is expected to choose one of the remaining three words which is identical to the target word. Both programs use alternating words and nonsense words. Dr. Olson testified that no other programs of which he was aware utilized alternating words and nonsense words.

For all three tests in both programs, speed (latency of response) and accuracy are recorded. Dr. Olson testified that utilization of the latency and accuracy data in the student profile was used for diagnosis and treatment in the same way for the two programs, although teachers could make their own choices.

In both programs, the students are trained according to the same three topics for which they were tested and in the same manner as with the testing. In both programs, students receive immediate feedback as to accuracy. Dr. Olson testified that if during training a student's variation in speed and accuracy is too great from one block to another, the student must keep training. When the variation reaches a certain minimal, level the student is allowed to progress to the next sub-program. The criteria for moving on to the next sub-program is similar for both. Students must attain 95% accuracy over three consecutive trials in each. Dr. Olson stated that this aspect of the program was highly unusual and he was not aware of any other program that did anything like it. Dr. Olson testified that both programs presented profiles of accuracy and speed in very similar ways and that he had not seen anything that really looked like this in other kinds of software.

It is also appropriate for me to analyze lay evidence and exhibits presented by the parties to make a determination of substantial similarity. See Whelan, 797 F.2d at 1233. First,

presentation of skills proceeds hierarchically from the simple to the complex exists in both programs. Next, a visual scanning test is administered in both programs in combination with the other tests to determine the student's sub-type. Also both programs employ matrices for recording student progress within each section. Last, graphs are used for the same purposes within each program. Based upon my review of lay testimony, exhibits prepared by the parties and in particular the user manuals of each, I find many significant similarities exist between both programs. For all the above reasons, I conclude that Autoskill has made a showing of substantial similarity between the NESSI Program and the most important protectible aspects of Autoskill's Program.

b. The Total Concept and Feel Test

Courts have also employed a "total concept and feel" test for substantial similarity that first appeared in Roth Greeting Cards v. United Card Co., 429 F.2d 1106 (9th Cir. 1970). The court in Sid & Marty Krofft, 562 F.2d at 1157 developed a two-part test based upon the prior case in which an "extrinsic test" test and an "intrinsic test" were applied. For the "extrinsic test" a court relied upon expert testimony to determine similarity in idea and an "intrinsic test" to compare expression based upon the response of an ordinary person. In Atari, the court employed the ordinary person test to a question of infringement concerning audiovisual games asking whether the defendant's work captured the "total concept and feel" of the plaintiff's work. Atari, 672 F.2d at 620.

The "total concept and feel" test has been criticized by Professor Nimmer. 3 NIMMER at 13-36 & 37. First, the test is more appropriate when evaluating simplistic works where unanalytic evaluation is appropriate. See e.g. Roth, 429 F.2d at 1106. The Tenth Circuit Court of Appeals has not addressed this issue. The importance of the role of the fact finder is stressed in the "total concept and feel" test and reliance on expert testimony is not appropriate. Krofft, 562 F.2d at 1164. Furthermore, the term "concept" appears to contradict the rule that copyright protection be extended only to expression. 3 NIMMER 13-36 & 37. Likewise the term "feel" is contrary to the necessity of analysis. **Id.**

In this case, the "total concept and feel" test would involve the impressions of the court as to the question of substantial similarity. See Atari, 672 F.2d at 619. Because the court did not operate the programs, in order to utilize this test I could only rely upon a few photos of selected screen displays and a logic flow chart. Such a determination would therefore not be meaningful. I would need to rely upon the explanations and impressions of the expert witnesses which is inappropriate. In addition, the reading programs at issue here are complex. For all these reasons, I decline to utilize the "total concept and feel" test in this case.

c. NESS' Attempt to Show Lack of Substantial Similarity

NESS has presented evidence of differences between the programs. To determine whether NESS has not infringed upon the Autoskill Program it is inappropriate to merely list the similarities and differences and determine

who prevails based upon a comparison of the lengths of the lists. See Atari, 672 F.2d at 618; see also 3 NIMMER 13-51. Instead, NESS can prevail by proving that the similarities shown by Autoskill are not substantial and the important aspects of the Autoskill Program. See Whelan 797 F.2d at 1245.

First, NESS presented testimony of Mr. Johnson-Laird who is qualified as an expert as to computer software programs but has no experience in the teaching of reading or with computer programs for the purpose of teaching reading. This deficiency is significant because Autoskill's claim for copyright infringement is more importantly based upon the similarities in the important pedagogical aspects of the reading program than upon the similarities of the logic flow between the display screens. Furthermore, as in the case of Dr. Olson, although Mr. Johnson-Laird's testimony as to copyright law may be helpful, legal conclusions of the witness are not binding.

Johnson-Laird presented charts showing the differences between the logic flow between the display screens of both programs and testified as to the differences in the way in which both programs behave. First, the differences illustrated by the chart are misleading because they place the components of each program on an equal footing. This does not account for the relative importance of some components such as testing and training as opposed to the lack of importance of student lists. This deficiency is also evidenced by Johnson-Laird's admission that he did not consider the pedagogical content of the two softwares. Furthermore, I find that the differences by which a student or teacher travels through the program is not as an important aspect of communication or expression with the

user as is the testing, profiling, diagnosing, and training aspects described above. From the student or teacher's standpoint the content of what is communicated is more important that how he or she got there.

Johnson-Laird also testified about the differences in the "look and feel" of each program, particularly the visual elements. NESS uses prompts whereas Autoskill does not. Johnson-Laird noted the extensive use of color in the NESSI Program as opposed to the lack of color in the Autoskill Program. He testified that the word choices appear on the screen in phases in the NESSI Program whereas the all the words appear on the Autoskill screen at the same time. Dr. Olson testified that these differences were superficial and not pedagogically significant. I conclude that these differences are not important or substantial parts of the Autoskill Program. See Atari, 672 F.2d at 619 (where differences altering the visual impression of the work were not sufficient to preclude a finding of infringement).

NESS also presented testimony of Dr. Norton who is qualified to testify concerning the teaching of reading and computer programs used for the teaching of reading. Dr. Norton also testified about the differences in the "look and feel" of the two programs. She testified that the use of color in the Nessi Program was another piece of information of use to the student. She testified that color is not trivial. Dr. Norton also testified that the NESSI Program was more contemporary, more robust and had more activities. Nonetheless, I find these added features and enhancements are not enough to defeat the finding of substantial similarity. Id. See 3 NIMMER 1351-52.

Dr. Norton also described the difference in the graphs used by both. The NESSI Program records percentage of

accuracy whereas the Autoskill Program records the percentage of error. Dr. Norton testified that this was an important difference. Dr. Olson testified that it did not make a difference which way the data was presented. Even if this is an important difference, I find that when considered with the other differences listed above, it is not enough to disprove the finding of substantial similarity established by Autoskill. I, therefore, conclude that Nessi has failed to disprove the finding of substantial similarity established by Autoskill.

4. Originality and "Sweat of the Brow"

The Supreme Court in Feist made clear that originality is the "sine qua non" of copyright protection. Feist, 111 S.Ct. at 1289. An analysis of originality can only be based upon the protectible elements of the program. The testimony of Dr. Olson as to originality has been explained above. Based upon his extensive review of the various reading software products, Dr. Moya testified that in his opinion the Autoskill Program was unique. He testified that the program was unique in the following ways: the way in which the computer program recorded mastery and speed; the manner of reinforcement of student responses; the manner of presentation of graphs giving immediate feedback to students, rather than only to teachers and the manner in which the Autoskill Program assessed the abilities of the student and divided them into subtypes. For all these reasons, I conclude that Autoskill has established originality of the protectible elements of the Autoskill Program through the testimony of Dr. Olson and Dr. Moya.

Last, Autoskill has submitted much testimony as to the amount of time and effort it put into developing the Autoskill Program. "Sweat of the brow" evidence is not to be considered in a copyright infringement suit. Feist, 111 S.Ct. at 1291. This opinion was not based in any way upon evidence of the time and effort expended by Autoskill in developing its product.

To summarize, I find that NESS had access to the Autoskill Program and that substantial similarity exists between the protectible elements of the Autoskill Program and the NESSI Program. Therefore, I conclude that there is a substantial likelihood that Autoskill will prevail on the merits of its copyright infringement claim at trial on the basis of the evidence presented by both of the parties at the preliminary injunction hearing.

II. Irreparable Harm

The second prong of the test for the grant of a preliminary injunction requires a finding of irreparable harm. Autoskill argues that a showing of a prima facie case of copyright infringement raises a presumption of irreparable harm. This rule prevails among the circuits. See e.g. Franklin, 714 F.2d at 1254; Phoenix Control, 886 F.2d at 1174. Atari, 672 F.2d at 620. The Tenth Circuit Court of Appeals has not addressed this question, however the District Court of Kansas has stated that in a copyright suit the test for preliminary injunction is less rigorous. Clark Equipment Corp. v. Harlan, 539 F.Supp. 561, 567 (D.Kan. 1982). In Harlan, the court stated that "a copyright holder in the ordinary case may be presumed to suffer irreparable harm when his right to the exclusive use of copyrighted

material is invaded." Id. at 569. I agree and I conclude that a presumption of irreparable harm can be made in this case because I have found a likelihood of success on the merits.

Nonetheless, even if the Tenth Circuit were to apply the strict test for copyright infringement, Autoskill has made the required showing. Trites testified that the injuries resulting from the infringement are difficult to quantify. He stated that Autoskill will suffer from a loss of uniqueness in the marketplace. In addition, there was testimony by Trites and Fiedorowicz that if the NESSI Program produced poor results, such results would affect Autoskill's reputation. They maintain that this would lead prospective customers to believe that the Autoskill Program would also produce poor results. Trites also stated that because he did not possess NESS' customer list, he had no way of ascertaining how many customers were lost to NESS. This testimony establishes the fact that the NESSI Program jeopardizes Autoskill's investment and competitive position and thus shows irreparable harm. See Franklin, 714 F.2d at 1254. Although these losses are not capable of being calculated or measured, they constitute irreparable harm. See Standard and Poors Corp. v. Commodity Exchange, Inc., 683 F.2d 704, 711 (2nd Cir. 1982) (where it was not realistically possible to measure the actual amount of lost sales, the injury was likely irreparable).

III. Balance of Hardships and Public Interest

NESS has argued that issuance of an injunction would be devastating to NESS, its investors, its employees and customers. However NESS points no evidence of this in the record.

Even assuming such a devastating effect, courts have held that a knowing infringer cannot be "permitted to construct its business around its infringement." See Franklin, 714 F.2d at 1255; see also Atari, 672 F.2d at 620. Because Autoskill showed a substantial likelihood that NESS infringed upon its copyright, I cannot allow NESS to continue. Finally, copyright laws seek to encourage individual effort and creativity, granting a preliminary injunction in this case would uphold those interests and protect the rights of the copyright holder. Atari 672 F.2d at 620.

Final Matters

As for Autoskill's trade secret claim, I conclude first that questions of fact exist concerning the nature of the confidential relationship between NESS particularly Neil and Autoskill principals Trites and Feidorowicz. Therefore, NESS' motion for summary judgment is denied. Second, I conclude that Autoskill has not sufficiently established the elements on the evidence presented at the preliminary injunction hearing for a showing of trade secret violation necessary to find a substantial likelihood of success on the merits. **See NMSA 57-3A-2 (D) (1991 CUM. SUPP.).** Therefore, Autoskill's request for a preliminary injunction on this basis is denied but the question is reserved for a full trial on the merits. Further, I conclude that there is no basis for NESS' affirmative defenses of laches or unclean hands.

Fed.R.Civ.P. 65(c) requires an applicant for preliminary injunction to post a security bond to cover damages, in the event that a party is wrongfully enjoined. Autoskill argues that I should dispense with this requirement because there

exists uncontroverted evidence that Autoskill possesses the revenue to respond in damages if it later loses in a damage suit for alleged wrongful issuance of the injunction. Autoskill's reasoning is insufficient to persuade me to dispense with the bond requirement.

Finally, any findings of fact which are more properly considered conclusions of law shall be deemed conclusions of law and any conclusions of law which are more properly considered findings of fact shall be deemed findings of fact.

Conclusion

To summarize, I conclude that there exists a substantial likelihood that the NESSI Program infringes on the Autoskill Program. Therefore, Autoskill's motion for preliminary injunction is granted. Bond will be set at $250,000. Last, this injunction extends protection only to the protectible elements of the Autoskill Program from which there is a substantial likelihood that NESS infringed as outlined above. Autoskill has requested that I impound the NESS Program and related material. In light of the nature of this opinion and the following order, the parties are invited to apprise me as to the necessity, feasibility and nature of such impoundment. Now, Therefore,

IT IS ORDERED that NESS and each and every one of its officers, agents, employees and attorneys and each and every person participating with them who receives actual notice of this order by personal service or otherwise, are hereby preliminarily enjoined during the pendency of this action, from doing any of the following acts, or any combination thereof:

1. Manufacturing, reproducing, duplicating, copying, marketing, selling, renting, lending, distributing, displaying or demonstrating any portion of any NESSI Program or user manual which is substantially similar to the protectible elements of the Autoskill Program.
2. Specifically, doing any of the above acts pertaining to that part of the NESSI Program dealing with the sub-types A, 0 and S in the testing, diagnosing, profiling, training, graphing and recording of results.
3. Manufacturing, reproducing, duplicating, copying, marketing, selling, renting, lending, distributing, displaying or demonstrating any new program, derivative work or user manual which is substantially similar to the protectible elements of the Autoskill Program.
4. Doing any other act which infringes on the protectible portion of the Autoskill Program.
5. Authorizing any other person or firm to do any of the above acts.

/s/

SENIOR UNITED STATES
DISTRICT JUDGE